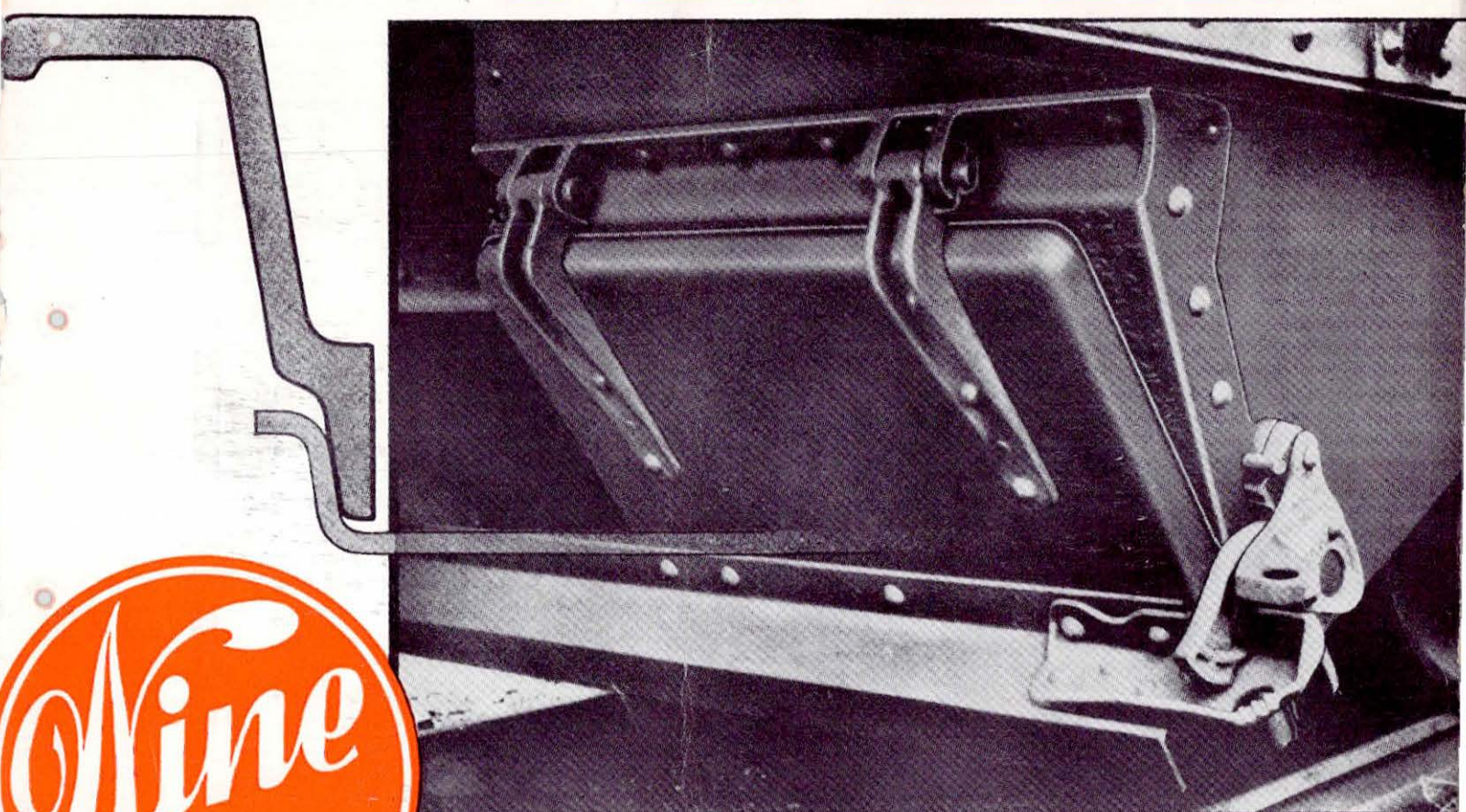
JULY 11, 1942

Railway Age

Founded in 1856

McCARTNEY LIBRARY
GENEVA COLLEGE

Self SEALED



Nine CAST STEEL

- MINIMUM CORROSION
- MAXIMUM STRENGTH
- NO LOSS OF LADING

HOPPER FRAMES

THE WINE RAILWAY APPLIANCE CO. • TOLEDO, OHIO

Worried About WHEELS?

Read These Quick Facts and You'll Feel Better

1. 2,293,000 new Chilled Car Wheels were delivered last year—30% more than 1940—and yet only 61% of the production capacity ready today.
2. The Chilled Car Wheel Manufacturers are prepared to supply all replacement needs, plus wheels for 187,000 new freight cars.
3. Chilled Car Wheels require no critically strategic materials—only iron is needed and much of that is used over and over as wheels are retired under the unique exchange plan.
4. There are 15,000,000 Chilled Car Wheels in service on the railroads of the United States and Canada.

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

230 PARK AVENUE,
NEW YORK, N. Y.

445 N. SACRAMENTO BLVD.,
CHICAGO, ILL.

AMCCW

ORGANIZED TO ACHIEVE:
Uniform Specifications
Uniform Inspection
Uniform Product

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 113, No. 2.

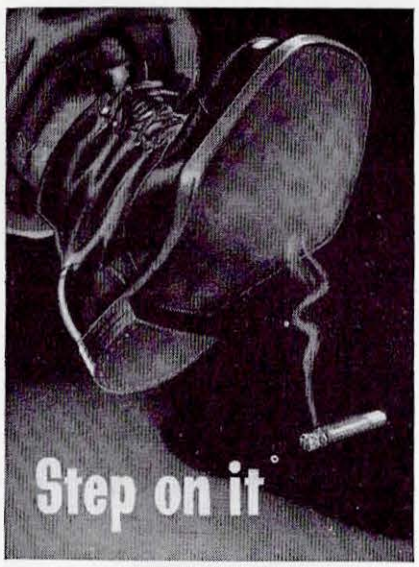
FIGHTING FIRES before they start

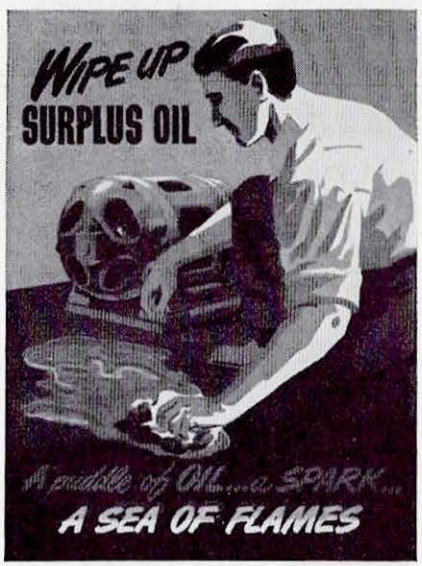
Most fires are preventable. A smoldering cigarette, flipped carelessly into a dark corner . . . a welder's spark flying unnoticed into a pile of oily waste—these little things can, and do, start devastating fires.

At the beginning of the war emergency, recognizing that fire is a treacherous and deadly saboteur of production, Bethlehem intensified its attack on the fire hazard. As always, trained, fully-equipped fire-fighting forces supplied the backbone of the fire-control effort, maintaining day-and-night vigilance in every Bethlehem plant and shipyard.

But to bring home the vital importance of fire prevention and control to every Bethlehem employee, we've designed a series of posters in full color and are displaying them in key locations throughout all Bethlehem shipyards and steel plants, which are now engaged in vital war work.

These posters are based on analysis of the most serious causes of fire and the all-important part of the human element in fire prevention. By pointing out to employees specific ways in which they can prevent or subdue fires, the posters are helping to minimize a potentially grave threat to the production of war materials.





Five of Bethlehem's series of fire-prevention posters. These posters are printed in full color. Each poster is designed to emphasize a specific problem in fire prevention or control.

BETHLEHEM STEEL

War-production plant executives who are carrying on fire-prevention campaigns may find these posters of interest. A complimentary set will be supplied on request to Bethlehem Steel Company, Bethlehem, Pa.

OUR FIGHTERS' LIVES • OUR NATION'S HONOR • OUR FINAL VICTORY

...depend upon tanks with maximum speed, high capacity and ability to stand up under severe shocks... So to increase their availability, Uncle Sam equips tanks with

Volute Springs

Photo by U. S. Signal Corps.

All Holland Company Friction Volute Spring Patents as of October 18, 1935, were released to our government.

GREATER AVAILABILITY IS ALSO NECESSARY FOR RAILWAY CARS

Why not increase the availability of your locomotive tenders and cars, for present and future use, by equipping them with

Improved HOLLAND Style A-6 *Volute* SNUBBERS

You gain these advantages:— (1) Keep cars in service by increasing spring nest shock capacity, thus eliminating 25% of coil spring breakage and delays while replacing. (2) Increase the life of the remaining 75% of the standard coil springs. (3) Replenish your stock of standard coil springs. (You replace one standard coil spring in each nest, with a Holland Volute Snubber, returning 4 double coil springs per car to stock.) (4) Reduce shocks to car structure, preventing damage which would otherwise put cars out of service. (5) Cut down delays and costs of transferring lading from disabled cars.

The Improved Style A-6 (S-M) Snubber Spring

Complete Assembly of Holland Volute Snubber Spring ready to slip into the spring group.

WRITE FOR FREE BULLETIN

HOLLAND COMPANY

★ ★ 332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS ★ ★ ★ ★ ★ ★

OK FOR IMMEDIATE TURNING
(Photograph Courtesy of Southern Pacific Lines)
"THAT BAD WATER SECTION HAS BEEN CLEANED UP"
..."AND HOW! HARDLY ANY TIME OUT NOW, EVEN FOR 'HOT WORK'"

• Bad water used in a locomotive invites trouble . . . burned flues, blistered sheets, leaky flues and bolts, and flue and fire box renewals. Some repairs and replacements are "hot work" jobs . . . others are not and require the locomotive to be shopped for varying periods. Dearborn Treatment conditions water so that immediate turning and doubling-back are general practice. Over 200 railroads use it.

• If there are sections where your water is particularly bad, Dearborn sets up a field laboratory right on your line. There a successful combination of chemicals can be worked out under your own operating conditions. If troublesome water is worrying you, don't suffer another minute. There's help for you! A Dearborn Engineer is nearby to serve you. Write us . . . we'll have him call.

DEARBORN CHEMICAL COMPANY, 310 South Michigan Avenue, Chicago, Illinois
205 E. 42nd St., New York 807-15 Mateo St., Los Angeles 2454 Dundas St., West, Toronto

Dearborn

TRADE MARK REGISTERED

SCIENTIFIC WATER TREATMENT

EDGEW

Contribute Im

The above photograph shows one of the new Union Pacific box cars recently built in their Omaha Shops. A part of this lot of cars was equipped with Edgewater Ring Spring Draft Gears —the Gear with High Capacity and Low Weight.

UNION PACIFIC
THE OVERLAND ROUTE

IMPORTANT FACTORS
CONTRIBUTED BY
EDGEWATER DRAFT GEARS

1—CAPACITY
High capacity provides efficient cushioning to protect cars.

2—ENDURANCE
Long gear life provides continued protection.

3—SMOOTH ACTION
Closes smoothly at high speeds or low.

4—UNIFORMITY
All gears have uniformly high quality.

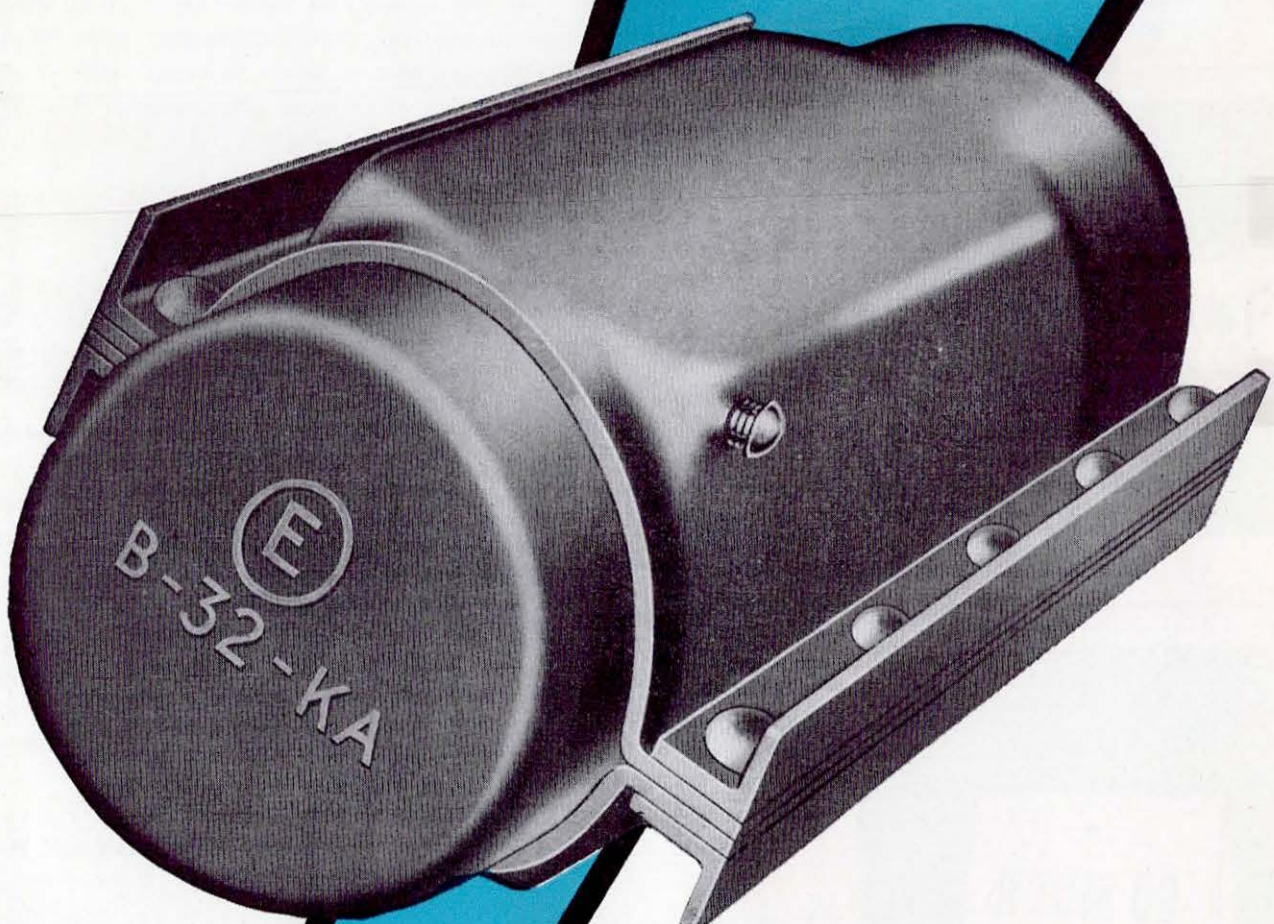
5—RELEASE
Release is quick and positive after impact. Destructive surges are prevented.

6—SIMPLICITY
It is furnished as a single selfcontained unit.

EDGEWATER STEEL COMPANY · PITTSBURGH, PA.

ATER DRAFT GEARS

portant Factors to Freight Car Progress



Atlanta, Ga. Baltimore, Md. Boston, Mass. Chicago, Ill. Cleveland, O. Kansas City, Mo. Louisville, Ky. New York, N.Y
Philadelphia, Pa. Portland, Ore. St. Louis, Mo. St. Paul, Minn. San Francisco, Cal. Seattle, Wash. Tulsa, Okla. Washington, D.C.

THREE OFFERS AND A PROPOSAL

IMAGINEERING

SO MUCH
SO SOON

FIRST OFFER: If you operate *any kind* of equipment made of aluminum and you are baffled in any way in maintaining it in top condition—give us the facts, and we will rush you our recommendations.

We are busy making more millions of pounds a month than we made in a whole year, not so long ago—but not too busy to make sure that no single pound of aluminum at work anywhere on war effort shall fail to do its share of making whatever it takes to win.

SECOND OFFER: If you are making anything whatsoever out of aluminum, and are stumped in any way in setting up the best methods of fabricating it—give us the facts, and we will see that you get all the know-how in our power.

THIRD OFFER: If you have joined the host of those who believe that industry must even now be planning the new products that will make jobs when this thing is finally over; if you are letting your imagination soar: Won't you ask us to help you engineer it down to earth with all the up-to-date facts about Alcoa Aluminum, plus some of the very practical dreams we have been dreaming?

AND THE PROPOSAL: Do some personal Imagineering, right now, for the sake of your own personal tomorrow.

We have been talking Imagineering for some months largely in terms of the future. And in terms of industry. But here is the personal slant:

Thirty billion dollars is loose in the country. It is the gap between what is available for spending and what is available for personal purchases. Each of us has a sliver of that chunk of excess purchasing power.

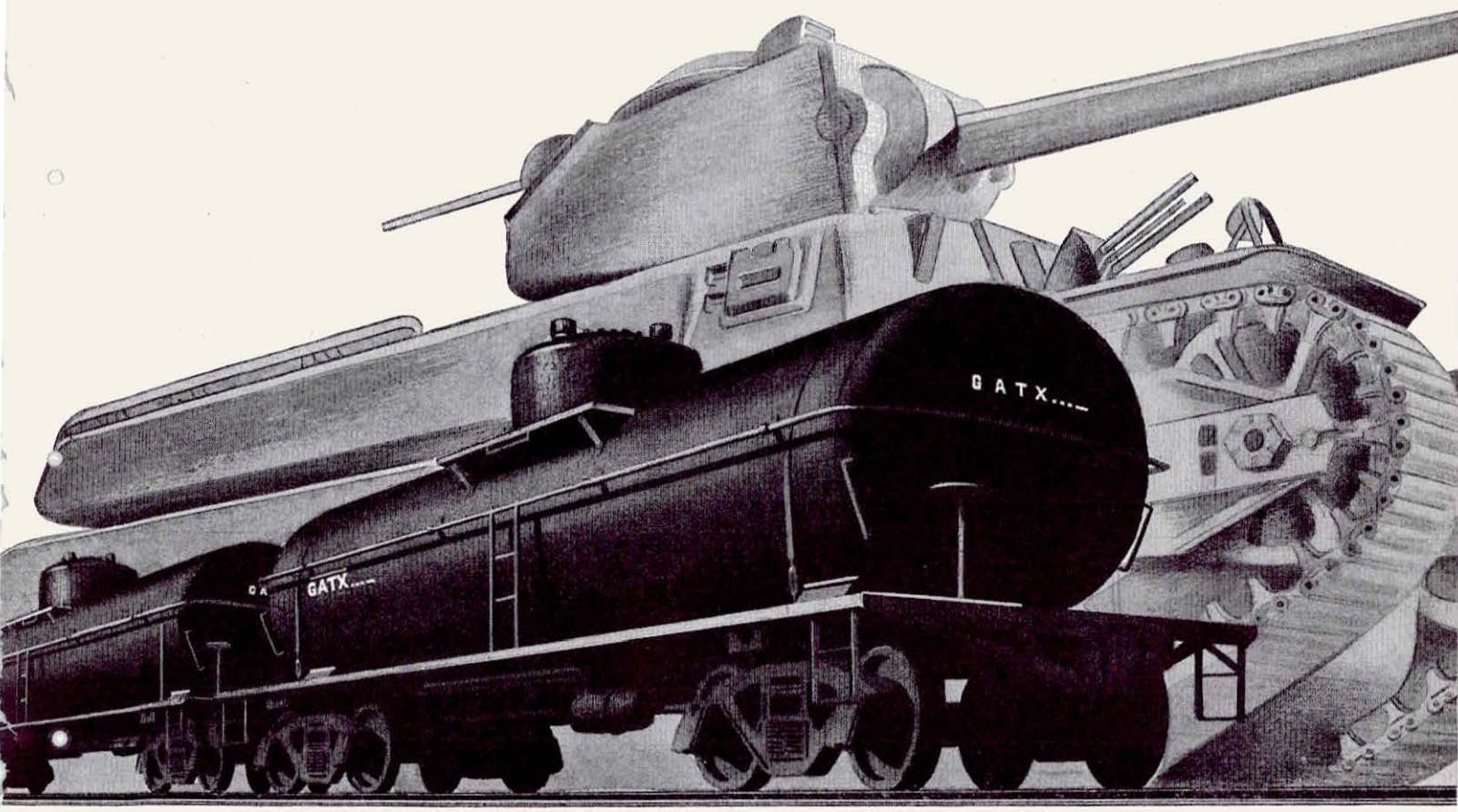
If we put it into War Bonds, we are told that it will both finance the war, and avoid inflation. We sometimes forget that it will also finance ourselves, as users of goods, to buy the new products we are all readying, as makers of goods. Buying tomorrow, today, is patriotism and sense—business sense.

Aluminum Company of America, 2178 Gulf Bldg., Pittsburgh, Pa.

ALCOA ALUMINUM

TANKS FOR ATTACK—

need tank cars for supply



Modern warfare requires more than fighting tanks. The tanks that move by rail are also vital to Victory.

In these highly specialized carriers travel the bulk liquids that our ships, our planes, our motorized forces, our production army must have to win.

Gasoline, butane, alcohol, chlorine, anhydrous ammonia and many other essential fluids race across the nation in tank cars designed and built by General American Transportation.

For a century the Railroads have served America in peace and war . . . the one indispensable form of transportation. For four decades the symbol GATX has identified the railroad cars operated by General American . . . pioneer in economical haulage of "problem" commodities.

KEEP 'EM ROLLING! Freight cars — particularly tank cars — are vital to Victory. They must be loaded, unloaded, kept moving with all possible speed. Delays may cost lives!

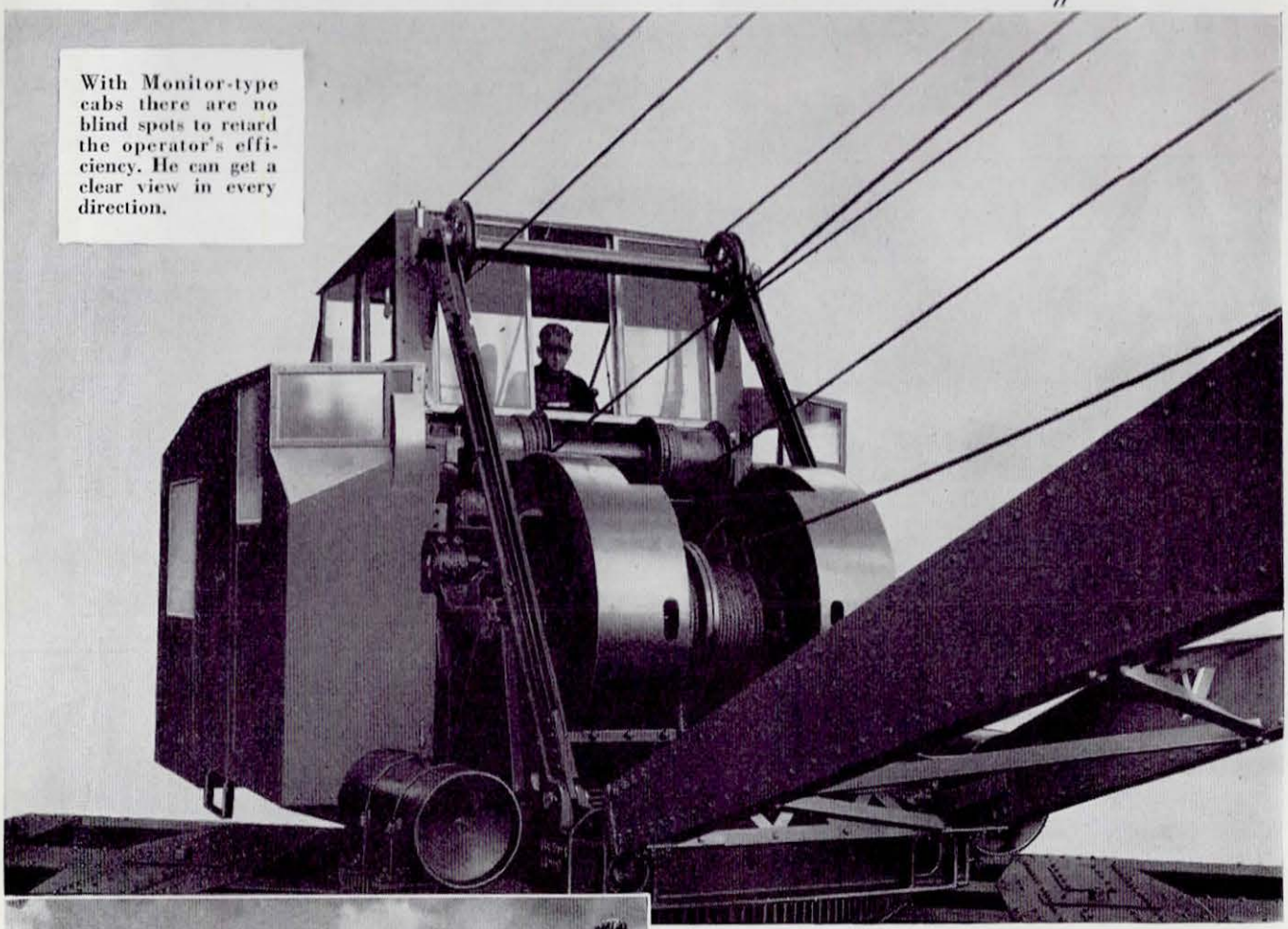
GENERAL AMERICAN TRANSPORTATION

CORPORATION

Chicago

Builders and Suppliers of Railroad Freight Cars

CLEAR VIEW IN EVERY DIRECTION WITH I. B. PATENTED MONITOR-TYPE CAB



With Monitor-type cabs there are no blind spots to retard the operator's efficiency. He can get a clear view in every direction.

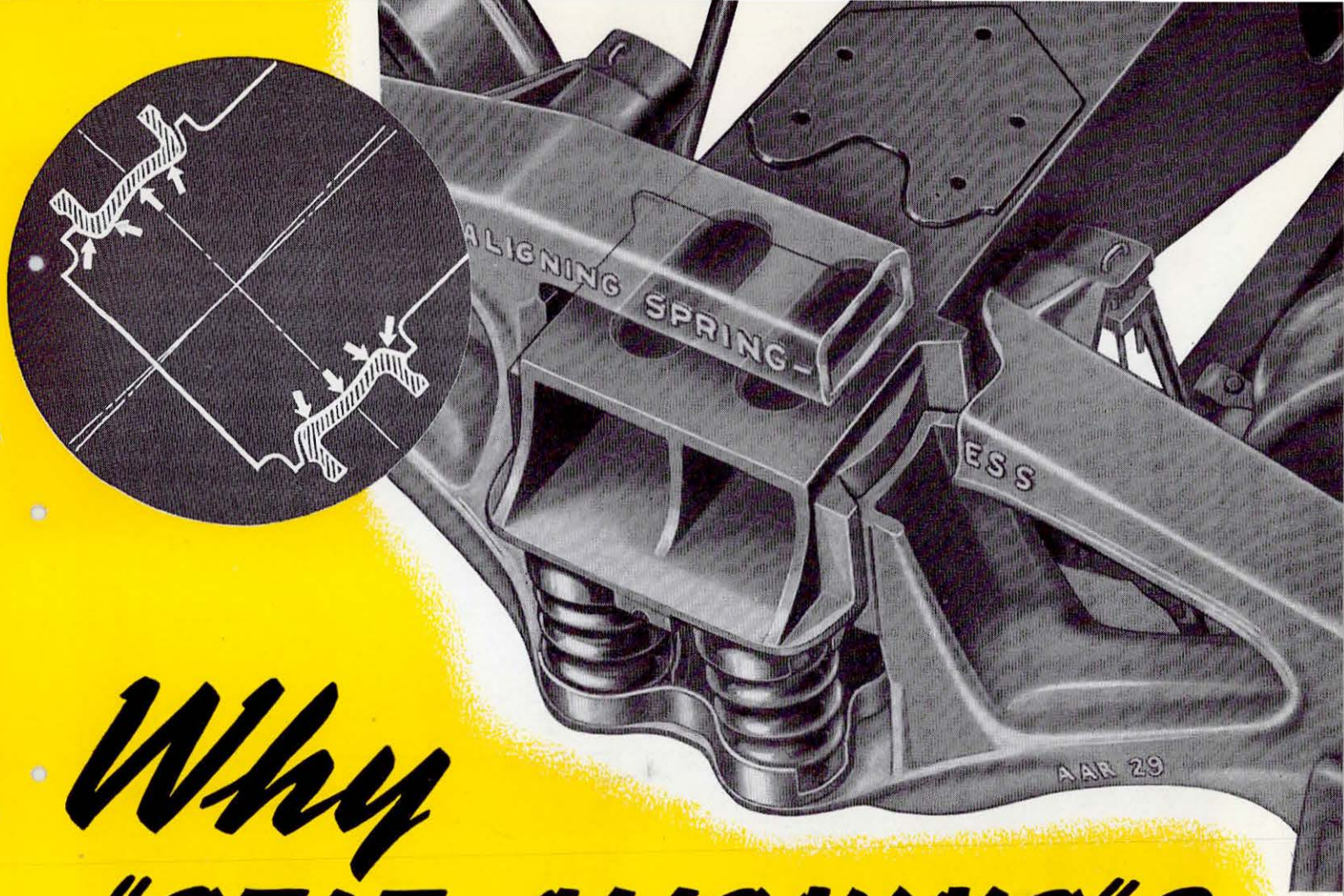
These days every possible advantage should be given to the men responsible for stepping up America's war production. One such advantage is the patented Monitor-type cab on Industrial Brownhoist locomotive cranes from 10 through 40 tons capacity.

These cabs improve operator efficiency by providing 360° visibility, better ventilation, less noise, and controls that are conveniently placed for handy operation.

In addition, undercarriage, rotating gears, crab mechanism, power plant, boom and rigging on I. B. Cranes are all designed and built to do an efficient, low cost, uninterrupted job of material handling. Write today for facts.

BAY CITY, MICHIGAN • DISTRICT OFFICES: NEW YORK
PHILADELPHIA, PITTSBURGH, CLEVELAND, CHICAGO

INDUSTRIAL BROWNHOIST
BUILDS BETTER CRANES



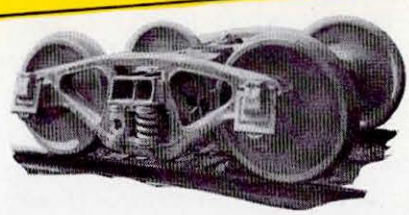
Why "SELF-ALIGNING"?

THE bolster of the Self-Aligning Truck has large cylindrical surfaces that fully contact similar surfaces on the side frame.

When the bolster is angled, flared bolster gibs also provide a full bearing engagement with the side frame columns.

These large bearing areas keep the bolster and side frames in self-alignment at all times.

This Self-Aligning construction, plus carefully maintained close tolerances obtained during manufacture, insures long wear and low maintenance.

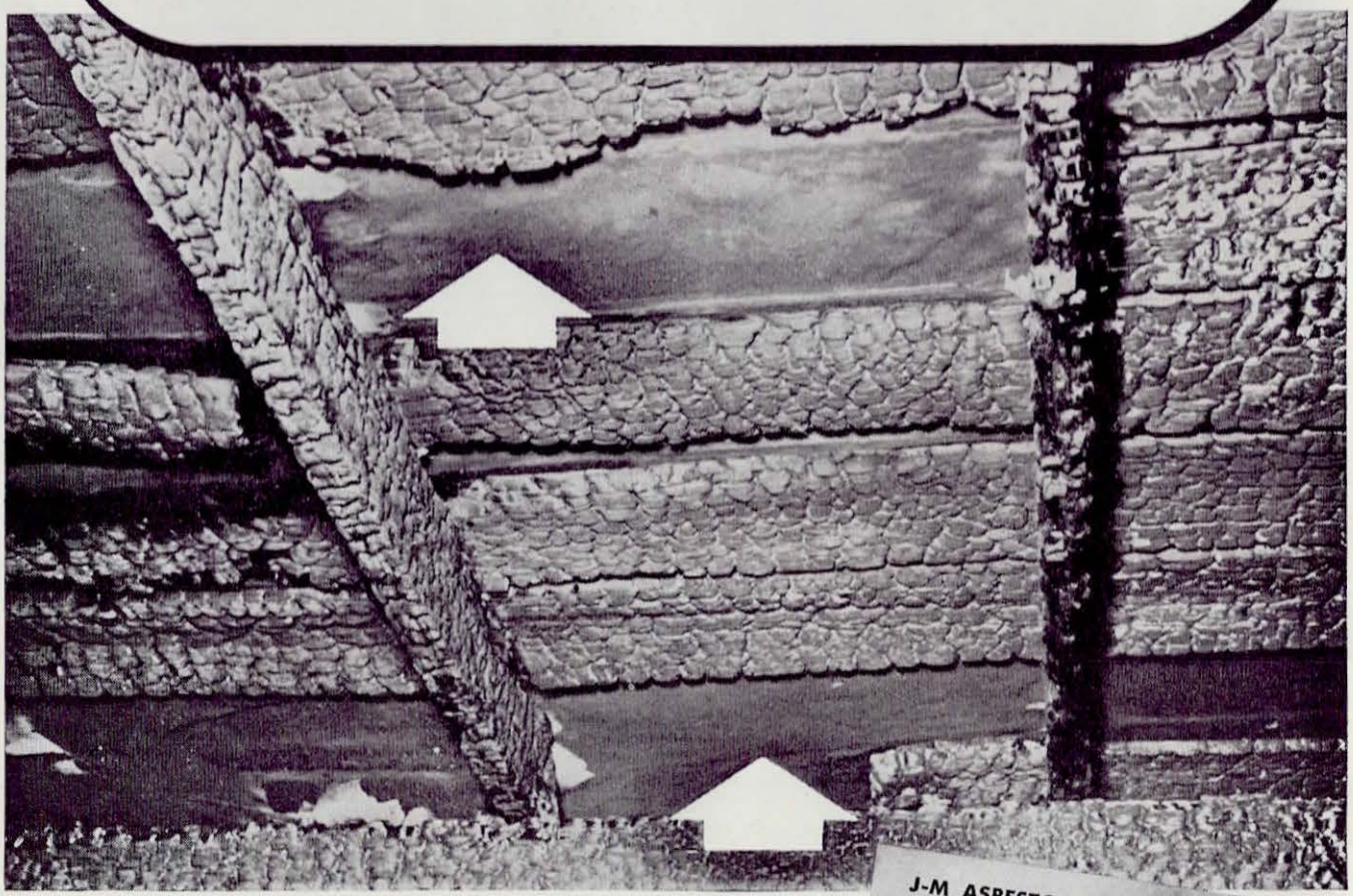


SELF-ALIGNING TRUCKS

. . . now in service under more than 100,000 cars

AMERICAN STEEL FOUNDRIES

Here's how J-M Asbestos Felts protect against the spread of inside fires!



Unretouched photo above gives graphic proof of the way fires can be confined in buildings with Johns-Manville Asbestos Roofs . . *and this roof was 28 years old at the time of the fire.*

IN crowded yards where a large number of buildings are located, the roofs you use can make an important contribution to the safety of the entire area. A J-M ASBESTOS Roof will not only protect against flying sparks from outside fires—it will help to confine fires originating within buildings.

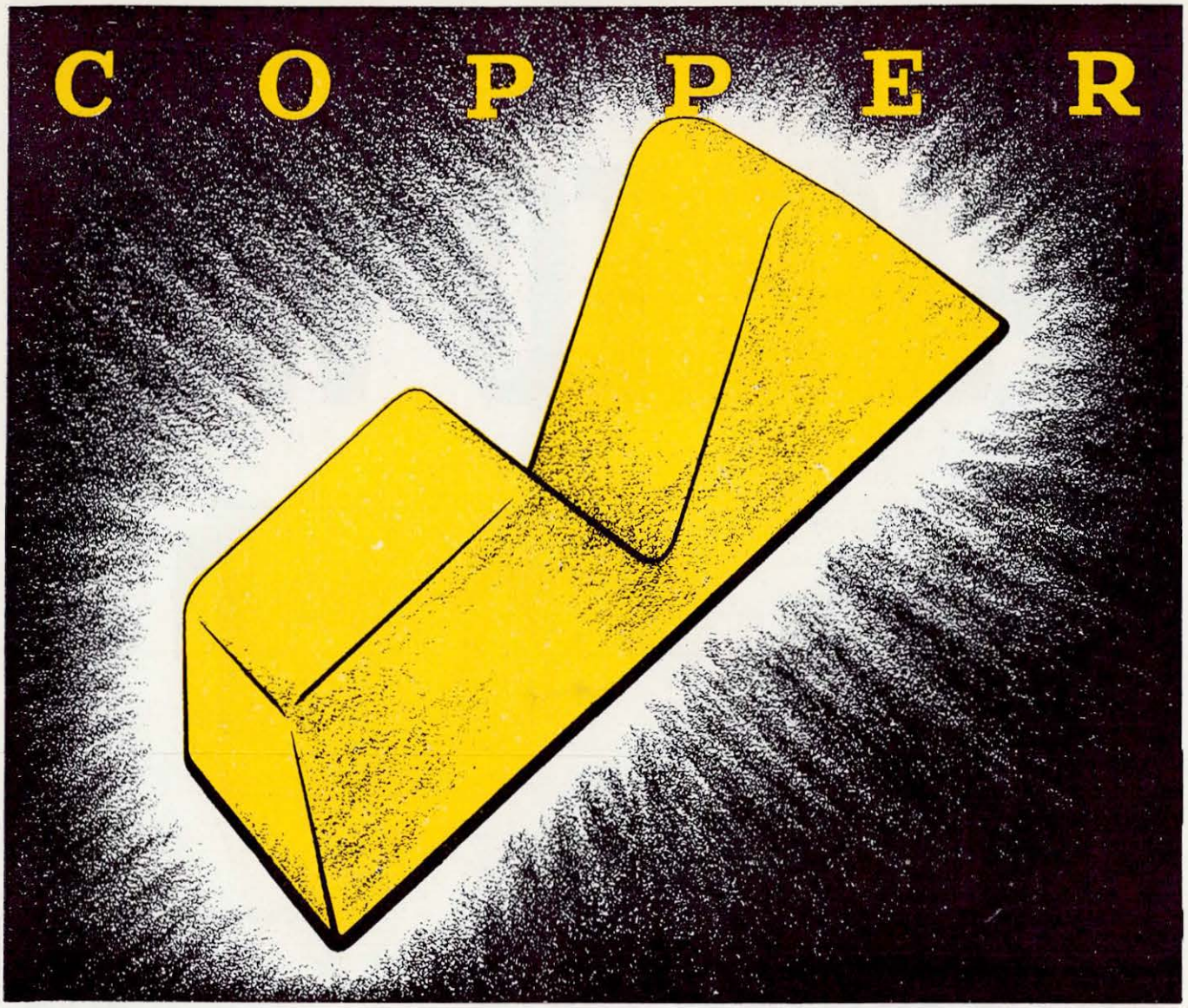
There is a J-M ASBESTOS Roof for every type of railroad building. For information regarding J-M Roofings or for the test sample described at right, address Johns-Manville at New York, Cleveland, Chicago, St. Louis, or San Francisco.

Make this Fire Test!

This test proves the fire-resistance of J-M ASBESTOS ROOFING FELTS. Note that the ordinary felt was reduced to ashes by the consuming flame, while the ASBESTOS FELT remained unharmed. We will gladly send you the materials so that you can make the test yourself.

JOHNS-MANVILLE

84 YEARS OF SERVICE TO TRANSPORTATION



Too Precious to Use for Driving Journal Bearings!

This copper ingot *must* go into an anti-aircraft shell. So there's no chance of using it to make new crown brasses for locomotive driving-boxes. And if *all* the copper goes into munitions . . . what will we use to keep the wheels turning?

Fortunately . . . we can use OIL! When driving journals revolve in a *bath of oil* . . . crown bearings last indefinitely. With Hennessy *OIL-lubrication* in driving-journal-boxes . . . the purchase of new brasses becomes a rare event. Reconditioning lay-ups are postponed for months. Servicing-time of driving-boxes at the terminal is cut as much as 1 to 2 hours daily.

16 Class I roads now lubricate driving journals with OIL—*mechanically* applied by Hennessy lubricators. Their adoption of OIL-lubrication *frees* important tonnage of critical metals—for war production. Even more to the point, their Hennessy - equipped locomotives make more trips—haul more freight. May we bring you the records—to compare with your own? Hennessy Lubricator Co., 75 West St., New York.

HENNESSY LUBRICATOR

Mechanical Lubricators for ALL Journals of Railway Equipment

SAVE TO WIN

EVERY storage battery is a war weapon, containing metals vital to our fighting men. You hold these metals in a sacred trust. It's your duty to squeeze from them every ounce of use . . . by following simple rules for battery conservation.

HERE'S HOW TO MAKE YOUR BATTERIES LAST!*

Keep adding approved water at regular intervals. Most kinds of local water are safe in an Exide Battery. Ask us if yours is safe.

Keep the top of the battery and battery container clean and dry at all times. This will assure maximum protection of the inner-workings

Keep the battery fully charged—but avoid excessive overcharge. There's always a right-way to do any job, and a storage battery will last longer when charged at its proper voltage.

Keep records of water additions, voltage and gravity readings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings. Know what's happening!

Exide IRONCLAD BATTERIES

*** If you wish more detailed information, or have a special battery problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 3814.**

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Baldwin serves the Nation which the Railroads helped to build

BALDWIN

Diesel-Electrics

have many advantages

Here are some of the advantages you get with Baldwin Diesel-Electric switching locomotives:

1. High starting torque
2. Rapid acceleration in the low speed ranges
3. High availability
4. Easy access for inspection and maintenance
5. Stand-by losses reduced to a minimum
6. Elimination of coal and ash handling equipment
7. Low fuel cost
8. Exceptional visibility for the operator

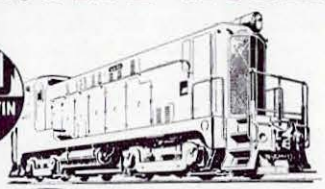
With its long experience in the locomotive business, Baldwin is especially fitted to interpret the needs of the railroads. Baldwin has been working with and for the railroads since 1831.

Baldwin De La Vergne diesel engines and Westinghouse electrical transmission equipment are added assurance of the correct engineering and rugged construction needed to meet the severe requirements of railroad service.

In this time of National emergency, when freight must move without delay through yards and terminals, Baldwin Diesel-Electrics are doing their part to speed America's Victory.

THE BALDWIN LOCOMOTIVE WORKS

BLW THE BALDWIN GROUP



Philadelphia

IT MAKES A *Better* { SKID / BENCH / PLATFORM / CRATE / WALL / TANK / BOX CAR } TOO!

*U. S. Patent No. 2056688

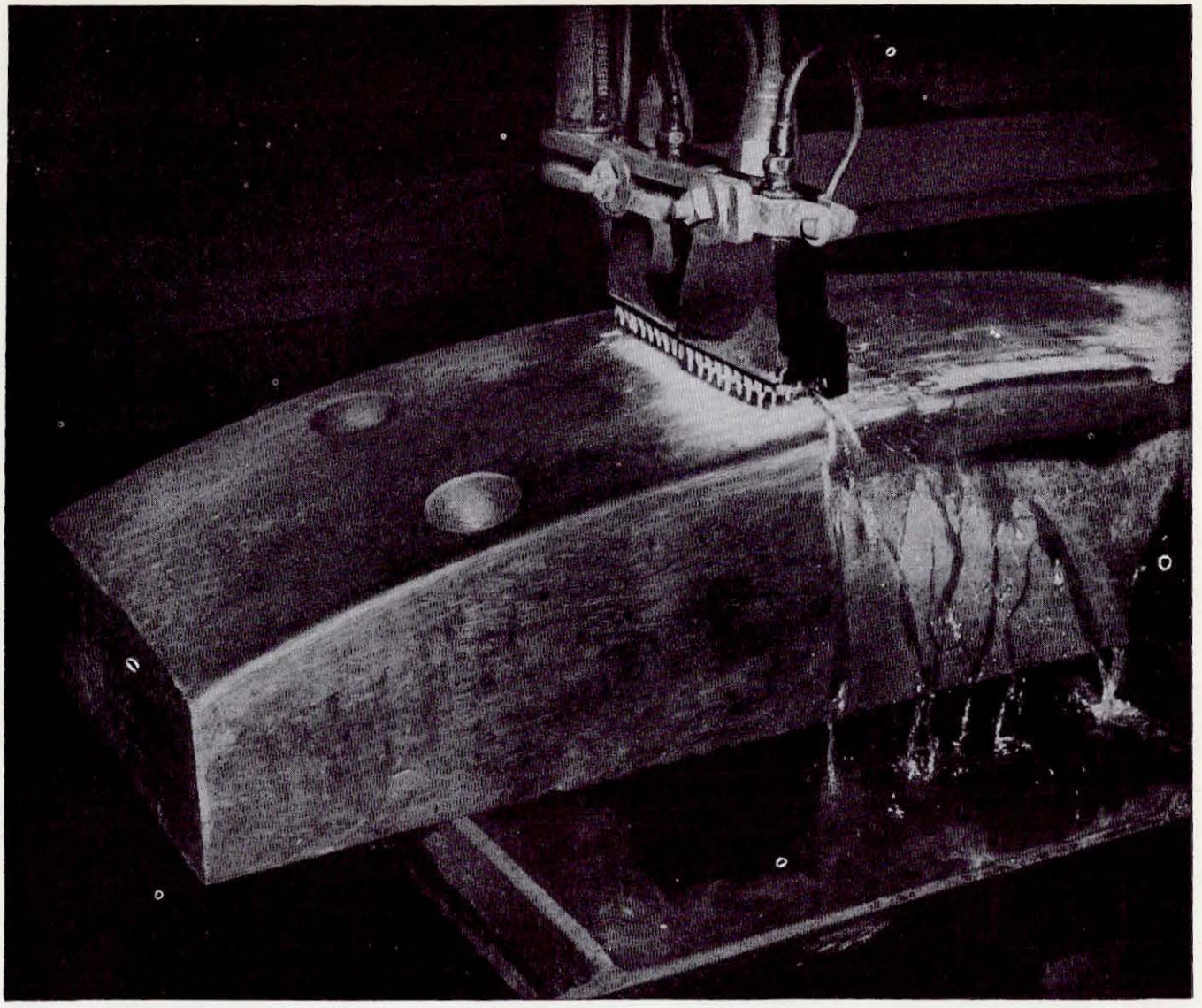
● You can write your own ticket and add to the list above of those wooden assemblies in which the Lamson **Weather-tight* bolt improves appearance. If appearance is important to you—then you can use the Lamson **Weather-tight* bolt to good purpose. But that is the least of its advantages. This new kind of bolt for wood has been engineered to insure definite, practical advantages no other bolt possesses. Why is it better? Note the tapered, splined shank of this bolt, in the photograph. When this bolt enters the wood it gently but firmly compresses the wood fibers into those sharp splines you see, wedging the bolt, like a cork in a bottle, and sealing the nut-end of the bolt against entrance of moisture along the shank of the bolt. (Of course, the tapered, splined shank also prevents this bolt from turning in the hole when the nut is applied and reduces splitting board ends to a minimum.) Then observe the twin annular ribs on the underside of the head of the bolt. Drawn down tight, the head of the **Weather-tight* bolt seals the wood fibers against moisture entering beneath the head of the bolt, permits the bolt head to seat flush with the surface without counter-boring. The head is slightly convex—all wear occurs where the metal is thickest, but the edge of the bolt-head is thick enough not to wear thin and sharp. Moreover—but why not send for the folder completely describing this new *engineered* bolt for wood construction?

THE LAMSON & SESSIONS COMPANY • 1971 West 85th Street • Cleveland, Ohio
Plants at Cleveland and Kent, Ohio; Chicago and Birmingham

LAMSON & SESSIONS

BOLTS • • NUTS • • COTTERS • • CAP SCREWS • • SPECIALS

Your Jobber Stocks the Lamson Line



OXY-ACETYLENE FLAME-HARDENING

Makes Wearing Parts Last Longer

• Oxy-acetylene flame-hardening is a recommended Oxweld procedure for giving the wearing surfaces of metal parts additional hardness and thus making them last longer. This process does not affect the chemical composition or the toughness of the base metal. Many car and locomotive parts, such as the chafing iron shown above, can be flame-hardened to extend their useful life. This process is valuable, too, when applied to work equipment parts, such as gears, crane wheels, or caterpillar tracks. Flame-hardening is also applied to certain items of shop equipment.

Oxweld instructors can supply operating and performance data to help railroads determine where flame-hardening can be applied effectively.

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York

OXWELD RAILROAD SERVICE

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The word "Oxweld" is a registered trade-mark of a Unit of Union Carbide and Carbon Corporation.

What the A. C. & Y. Has Found Out About Timken Bearings on Steam and Diesel Locomotives!

THE AKRON, CANTON & YOUNGSTOWN RAILWAY COMPANY
NORTHERN OHIO RAILWAY
GEORGE E. HAGENBUCH AND H. B. STEWART, JR., TRUSTEES

AKRON, OHIO June 26, 1942.

Mr. Walter C. Sanders,
General Manager, Railway Division,
The Timken Roller Bearing Company,
Canton, Ohio.

Dear Mr. Sanders:

It is my thought that you will be interested in the following report received from our Mr. J. W. Eckstein, Superintendent of Motive Power, pertaining to two Mikado type steam locomotives, equipped throughout with Timken roller bearings, which went into service on February 3, 1941:

"In our recent analysis after one year of operation of the two class R-2, type 2-8-2 locomotives, numbers 404 and 405, we found the Timken roller bearings were the most important factor in the economy realized. Repair and operating costs of these two Timken equipped engines compared with four similar engines on friction bearings in the same service are as follows:

	RUNNING REPAIR COSTS, PER MILE, PER LOCO.	LUBRICATION COSTS PER 1000 MILES, PER LOCO.	LOCOMOTIVE MILES PER TON OF COAL, PER LOCO.	POUNDS OF COAL USED PER 1000 GROSS TON MILES PER LOCO.
TIMKEN BEARING EQUIPPED LOCOMOTIVES	.061¢	$13.71	14.2	95.5
FRICTION BEARING EQUIPPED LOCOMOTIVES	.079¢	$15.28	11.7	115.0
PERCENTAGE IN FAVOR OF TIMKEN LOCOMOTIVES	22.78% Less	10.27% Less	21.37% More	16.95% Less

Naturally we are all greatly pleased with the performance of your bearings on these locomotives.

Another performance which is outstanding has been the operation of the 1000 H.P. Alco - G.E. Diesel switching locomotive built for us by the American Locomotive Company on which Timken roller bearings were specified. The fuel oil consumption on this locomotive, which is working 24 hours per day, has averaged slightly less than five gallons per hour. We understand that the lowest recorded average consumption of fuel oil by friction bearing equipped 1000 H.P. Diesel switchers has been seven gallons per hour. This substantial fuel oil saving is naturally of real importance in these times and will in itself quickly cover our expenditure for the bearings.

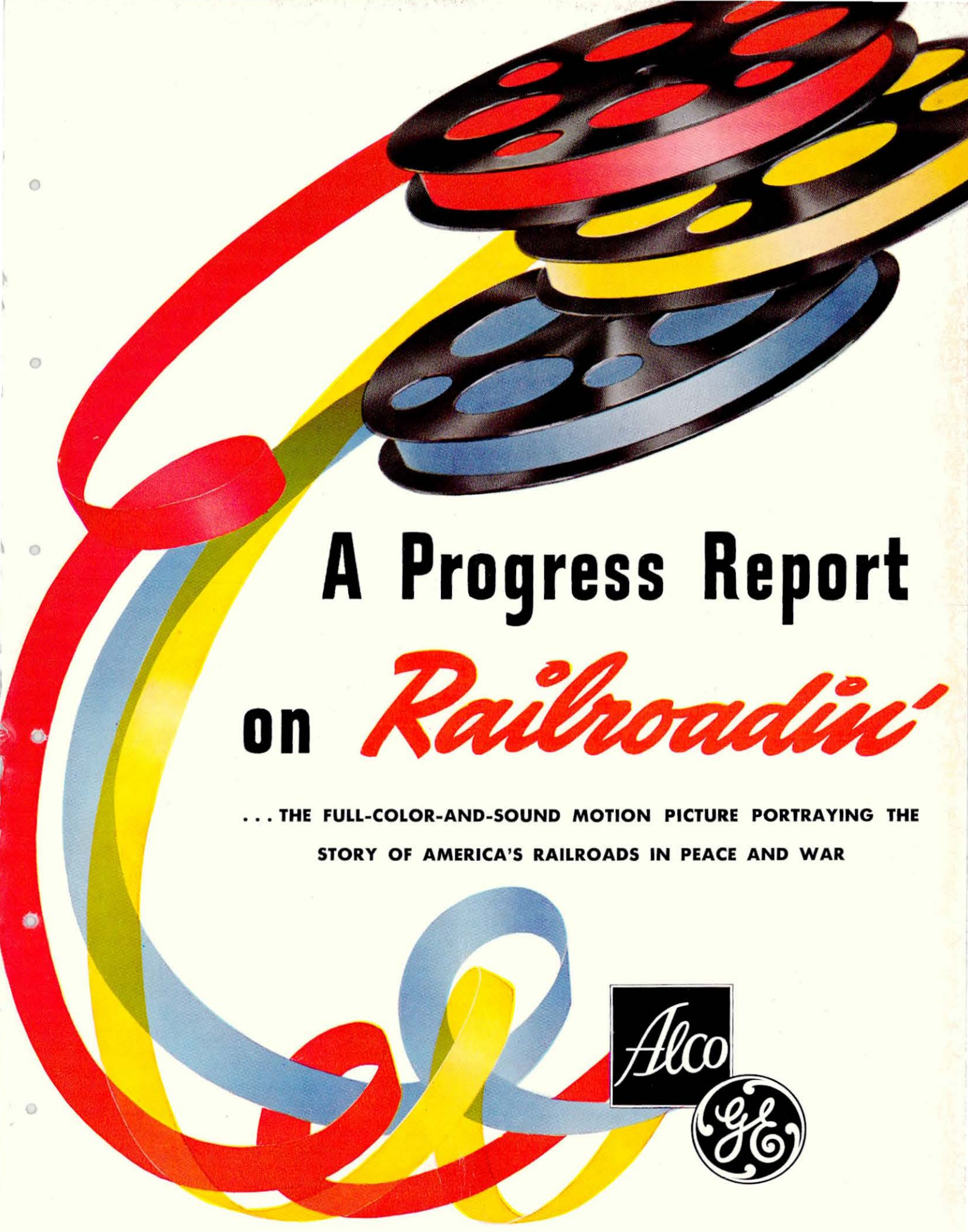
With warm personal regards,

Sincerely yours,

HBSJr-h

H. B. Stewart Jr.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO



A Progress Report on *Railroadin'*

. . . THE FULL-COLOR-AND-SOUND MOTION PICTURE PORTRAYING THE STORY OF AMERICA'S RAILROADS IN PEACE AND WAR

Alco

GE

1,000,000

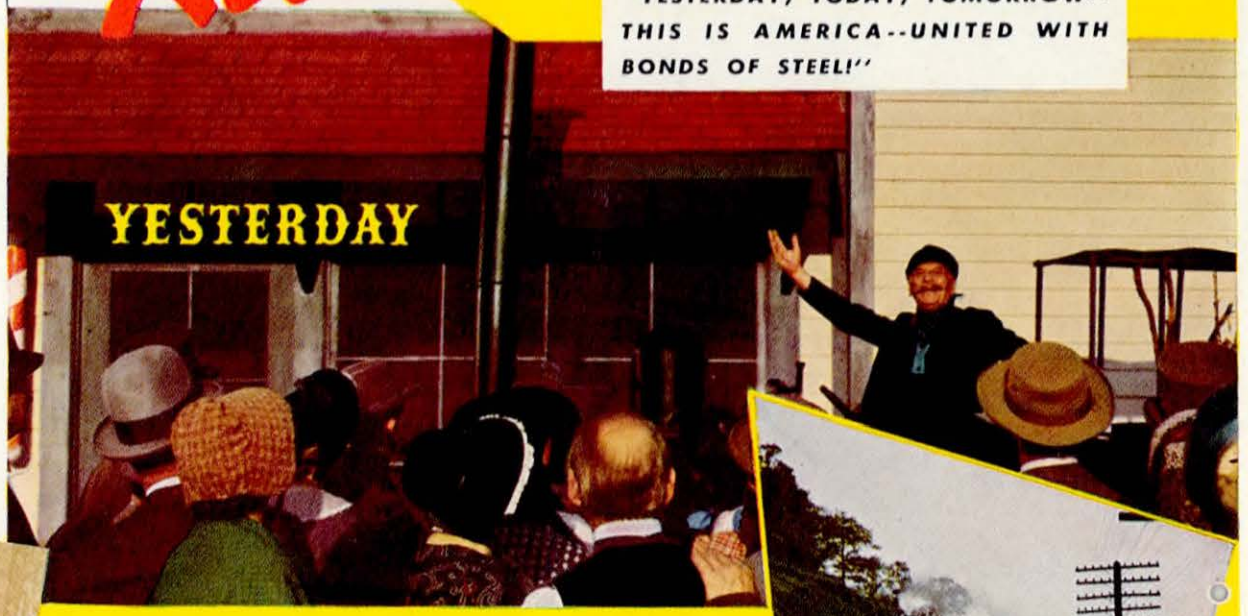
Careful estimates, based on past attendance and current bookings, indicate that at least 1,000,000 people will see RAILROADIN' in 1942. During the first quarter, each succeeding month showed a substantial increase, totaling more than 250,000 persons for the three months!

GED-931A

AMERICAN LOCOMOTIVE AND GENERAL ELECTRIC PRESENT

Railroadin'

"YESTERDAY, TODAY, TOMORROW--THIS IS AMERICA--UNITED WITH BONDS OF STEEL!"



HERE, in 30 minutes of thrilling action, is the story of America's railroads. To tell so great a story, the technical skill of Hollywood, all the beauty of full color, all the realism of sound, have been combined to give you the feel of America on the move!

See, in this magnificent production the drama and the inspiration of the development of railroading in this country. If you've ever wanted to sit in a locomotive cab—if you've wondered how a railroad keeps its seemingly endless cars moving with clock-like precision—if you've yearned to *live* and *breathe* the atmosphere of "railroadin "—you can do so now.

What's more, this picture will give you a dramatic insight into the first days of railroading, its place in America's future, and the ways in which, today, it is helping to make that future secure.

No matter where you live—in city, town, or country—*RAILROADIN'* will inspire you with its story of how our lives are made better, more enjoyable, more *American* because, serving all of us, are America's railroads.

Free

Upon request to the distributing point nearest you (see last page for details).

16MM—30 MIN—FULL COLOR AND SOUND

Alco

GE

Reproduced above is the front cover of a folder which you can use to promote showings of RAILROADIN'. This folder is available on request.

AMERICAN LOCOMOTIVE AND GENERAL ELECTR

WILL SEE IT THIS YEAR

The Pennsylvania Railroad reaches 52,000 people in one month

BETWEEN last November, when RAILROADIN' was previewed by railroad men throughout the country, and March 31 of this year, more than 275,000 people saw and heard this motion picture's 30-minute story of railroad history, progress, and service.

Today, when your lines are loaded to the limit, it is more important than ever to gain good will by telling people the story of this gigantic business of railroading. With this knowledge they will be more tolerant of war-time restraints on regular service, and more likely to remember the advantages of shipping and traveling by rail when the war is over.

RAILROADIN'—your wartime salesman—is telling this story for you. And it is highly successful at this job for two very good reasons:

1. Nation-wide circulation. Eighty prints are being shown throughout the country, both by the railroads and by Alco and G-E offices.

2. People enjoy it. RAILROADIN' tells, in full color and sound, an interesting, highly informative story—and it recognizes the fact that *everyone* loves a train and wants to know who and what make it run. The film asks no one to buy anything.

The Pennsylvania Railroad reached 140,643 people in five months and is booking showings at an accelerating rate. The Denver & Rio Grande has presented 253 showings to a total of 11,590 people on their "Food for Freedom" train, which is visiting small farming communities in Colorado and Utah.

Other railroads with their own copies are doing a similarly impressive job, and copies in Alco-G.E. film libraries from coast to coast are being booked months in advance.

TURN THE PAGE FOR COMPLETE INFORMATION ON HOW YOU CAN GET THE MOST FROM RAILROADIN'

People like it!

FROM RAILROAD MEN

"The finest film of its kind I have ever seen."

Judge Wilson McCarthy, Trustee, The Denver & Rio Grande Western Railroad.

"The finest piece of advertising for the railroads we have ever received."

E. A. Clifford, Purchasing Agent, Chicago & Northwestern Railroad

"Ordinarily, I am afraid I am too 'close-up' to appreciate these railroad moving pictures. However, the one today was the best I have ever seen; I enjoyed every bit of it."

An Eastern Railroad President

FROM THE PRESS

"You have done an excellent job. The picture should go a long way in showing the value of the railroad industry to the country."

Charles F. Foell, Editor DIESEL POWER

FROM THE PUBLIC

"I echo the remark I heard a dozen times today when I tell you 'that was the best commercial movie I have ever seen.' The color was beautiful and the story highly interesting."

R. Armistead Grady, Sec. Kiwanis Club, Duluth

Railroadin'

tells your story

Here's how you can get the most benefit from it

RAILROADIN' was made to accomplish one simple but very important purpose: to further among the general public an ever-increasing appreciation of the vital part the railroad industry plays in the daily lives of every one of us.

It was made to tell your story to *many people* at *one time*, and to do this at low cost to you in time and money.

Today, when you are busy with the transportation problems of war, it is important to save both your time and resources. But it is also important to continue to tell the public about your railroad, and about the service they can expect to receive from it when the war is over.

With RAILROADIN', you can tell them this story quickly, impressively, and often.

Where to Show RAILROADIN'

The universal and timely appeal of RAILROADIN' makes it suitable for showing to any group of people. Clubs, schools, colleges, employee meetings, civic organizations—all are appropriate audiences, and the number you can reach is limited only by the time available for showings.

An entire meeting can be built around a showing of this motion picture, and it affords an excellent opportunity for introductory remarks woven around some phase of the railroad industry of unusual interest to the particular group that is seeing the picture.

How to Obtain RAILROADIN'

Copies of RAILROADIN' can be borrowed—there is no cost to you other than the charges incident to shipping the film. Address your request to any of the distributing points listed on this page. A copy can be reserved for one or more showings, and descriptive literature for prior distribution is available.

You can also purchase a copy, or copies, of RAILROADIN' at cost.

For complete information, ask your Alco or G-E representative, or write to any of the distributing points listed on this page. We want to do everything we can to help you get the most from this timely, convincing, and entertaining motion picture.

For information on RAILROADIN' or for reservations, write or call:

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650 Seventeenth St., Denver, Colo.
212 N. Vignes St., Los Angeles, Calif.
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920 S. W. Sixth Ave., Portland, Ore.
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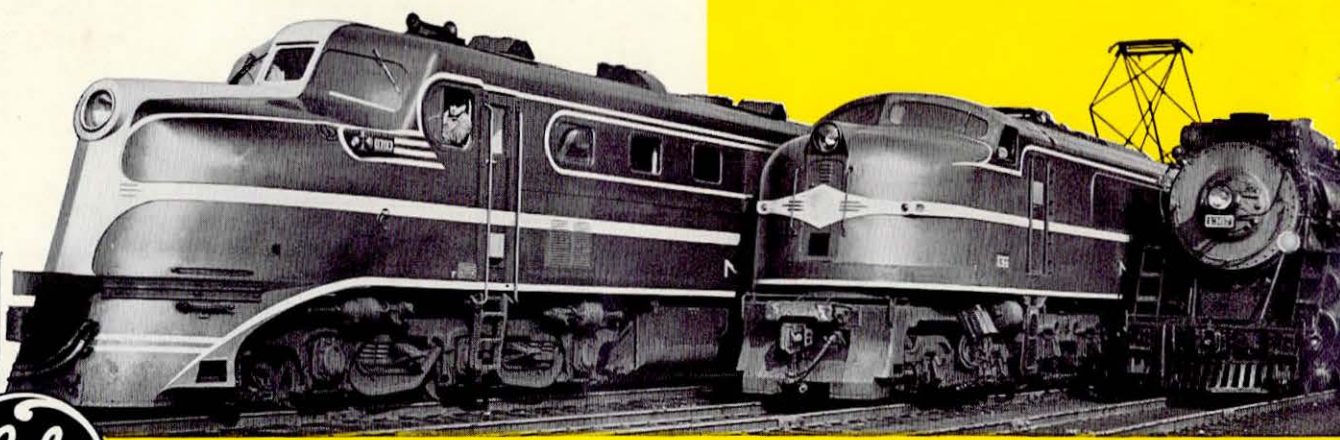
UNIVERSITY OF CALIFORNIA, Department of Visual Instruction, Berkeley, Calif. (A small service charge is made for films ordered from this office.)



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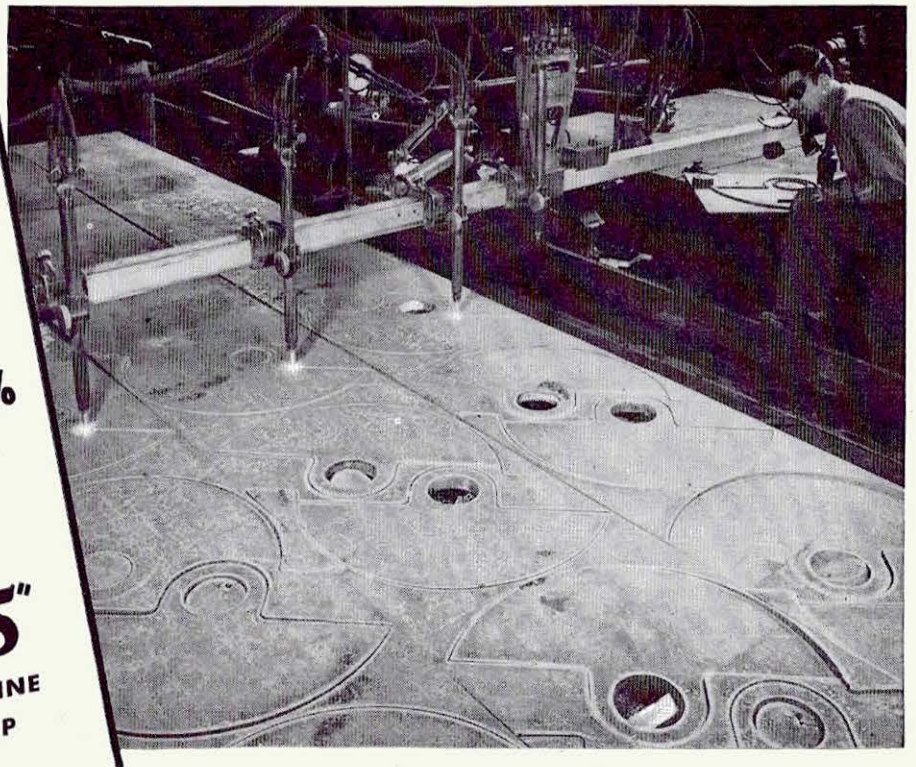

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1"	22.2	24.0
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3"	28.8	45.2

Figures shown are averages obtained in survey recently completed in Philadelphia area.

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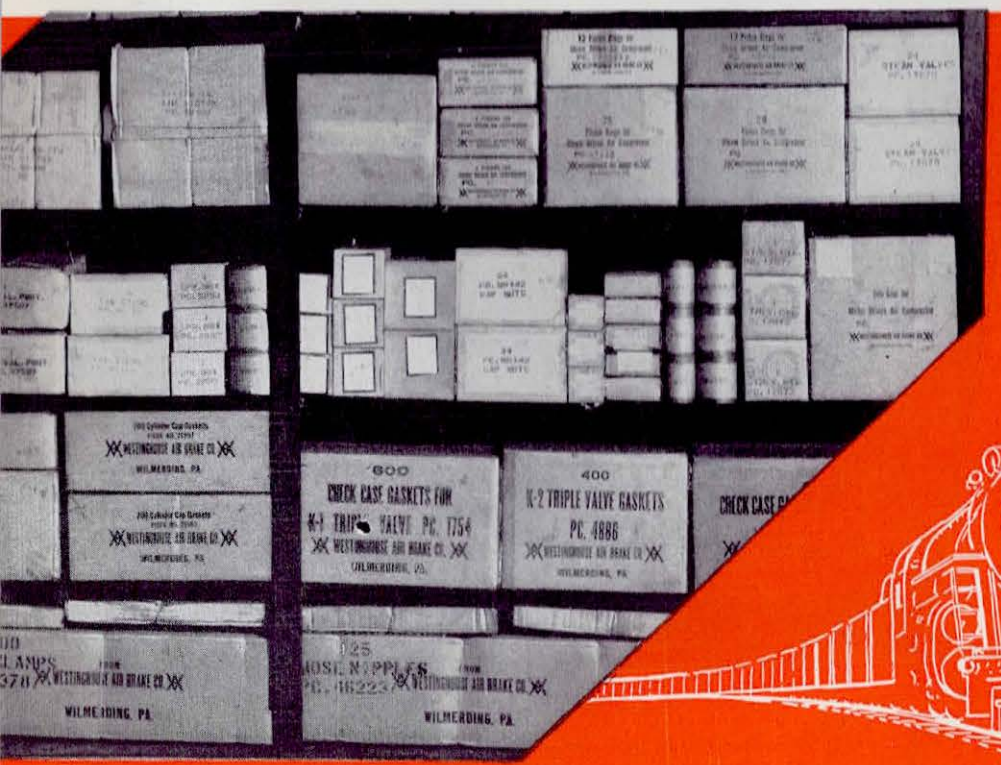
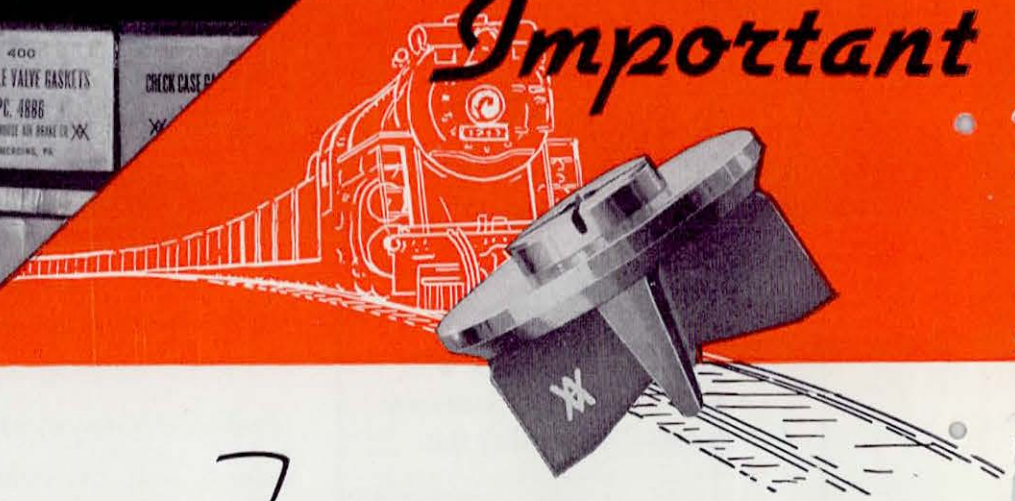


Are STANDARD PARTS *Important*



TO KEEP railroad equipment up to par is a recognized essential in meeting today's intensive requirements . . . Since efficient Air Brakes are vital to satisfactory train operation, the necessity of sustaining the reliability of detail apparatus is even more urgent than ever before. A major help to this end is to have a stock of Westinghouse standard packaged parts of all air brake devices on hand for meeting repair needs. Being exact duplicates of the replaced details in every respect, they require a minimum of time and labor to install, and give the same trouble-free and lasting service as the originals . . . Sturdy cartons, trade marked for ready identification, provide for shipping protection, convenient storage, and easy handling . . . The way to true maintenance economy is marked by the exclusive use of "genuine" Westinghouse repair parts.

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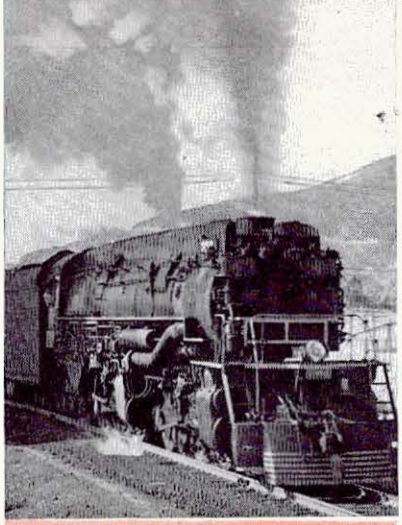

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK, N. Y., AND 105 W. ADAMS STREET, CHICAGO, ILL.

WASHINGTON, D. C.: 1081 NATIONAL PRESS BUILDING. CLEVELAND: TERMINAL TOWER. SEATTLE: 1038 HENRY BUILDING. SAN FRANCISCO: 550 MONTGOMERY STREET, ROOMS 805-806. LOS ANGELES: 530 WEST 6th STREET.

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RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATIONS (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK, OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR, $6.00; 2 YEARS, $10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, $14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 113 July 11, 1942 No. 2

In This Issue

Page

Steel Coaches to East Africa ***50***

A description of the lightweight, high-speed coaches recently completed by the American Car & Foundry Company for the Portuguese Mozambique Railways.

More Tie Renewals Made in 1941 ..... ***54***

A review of the tabulation of statistics relating to tie renewals compiled by the Bureau of Railway Economics from reports made to the I.C.C. by 135 railroads in the U.S. and Canada.

Wants Integrated Transportation Companies—Now ***58***

A report on the concluding testimony in the hearings held in connection with the Board of Investigation and Research's study of public aids to carriers.

EDITORIALS

Materials and Maintenance 47
The Railways vs. Japan 48
Moving the Wheat 48
Stimulating War Production 49
Daniel Willard 49

GENERAL ARTICLES

Steel Coaches to East Africa 50
Military Railroad at Camp Claiborne 52
Getting the Best Men Available 53
More Tie Renewals Made in 1941 54
E. M. Durham, Jr., Is Succeeded by John D. Farrington 57
Wants Integrated Transportation Companies Now 58
Daniel Willard Dies in 82nd Year 61

COMMUNICATION **62**

RAILROADS-IN-WAR NEWS **63**

GENERAL NEWS **67**

REVENUES AND EXPENSES OF RAILWAYS .. **82**

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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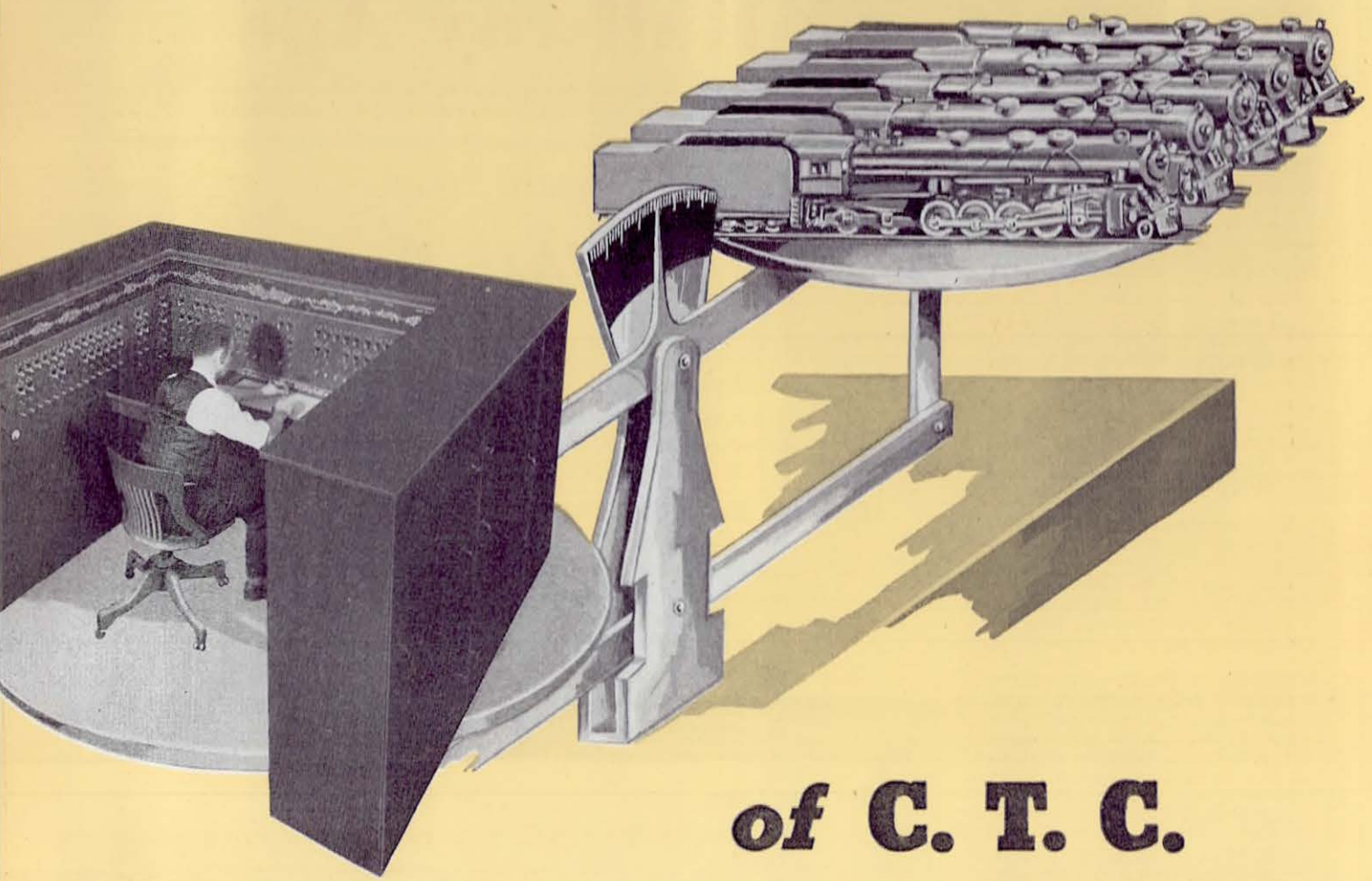
Weigh the Advantages



# of C. T. C.

INCREASED capacity must be provided to handle wartime traffic. It cannot be done by acquiring additional tracks and rolling stock. Materials are too scarce, there is not enough time, and the expense would be too great.

Centralized Traffic Control permits more effective use of facilities now on hand, and makes available capacity enormously greater than can be achieved by the same amount of material in new rails, locomotives or cars. *Pounds* of critical materials in a C.T.C. system will get more traffic over the line than *tons* of those materials in a locomotive, and installations can be completed promptly so that the benefits can be obtained now, when they are needed.

It is conservatively estimated that on one C.T.C. installation the elimination of delays to trains moving over a sub-division results in increased availability of power which will be equivalent to adding five locomotives a day to the assignment.

If the available facilities for getting greater capacity are compared, the scales will tip in favor of Centralized Traffic Control which secures more service from existing equipment.

2060

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The Week at a Glance

DANIEL WILLARD: The widest-known railroad man in America died this week, full of well-earned honor, and warm in the esteem of thousands of his fellow-countrymen—especially of his fellow-railroaders. Scarcely a metropolitan newspaper failed to pay editorial tribute to him—and their expressions varied widely, indicating that, to them, he was much more than a great name; each writer knew something—some a great deal indeed—of the manifold accomplishments of the man. In addition to a biographical sketch of his career in this issue, there is an expression in our editorial pages by one who knew him well.

●

MORE TIES LAST YEAR: Indicative of better track conditions to sustain today's heavier traffic are figures given elsewhere herein on 1941 tie renewals—revealing an increase of 8.3 per cent over the preceding year. The report lists individual railroads, showing that 73 roads applied more new ties last year than the year before, while 55 renewed a fewer number. Total ties applied by the 135 reporting carriers were almost 56,000,000.

●

RAILWAYS VS. JAPS: Important railway routes to the Pacific are handling traffic more than 100 per cent above 1940—every ton of which increase, directly or indirectly, represents our war effort, especially against the Nips. No other agency of transportation could handle this traffic, and, if it were not being handled—as one intelligent observer has noted—"we would now have the Japs on our West Coast." Do Pacific Coast residents, and Americans generally, have a true appreciation of the vital importance to their freedom, and even their very existence, of these half dozen railway arteries? Will they, after this war, permit the starvation of these lines by political diversion of traffic—which they tolerated in the 'Thirties? An editorial herein raises this question—but does not answer it; only the intelligent concern of the American people for its own welfare can do that.

●

CURE TRANSPORT ILLS NOW: Putting some order into the chaotic transportation household ought not to wait until the carriers are in the throes of post-war readjustment. So Donald Conn, for the Transportation Association of America, advised the Transport Study Board last week—as outlined elsewhere in these pages. Mr. Conn wants the several agencies of transportation "integrated", rather than competing with each other. He urges merger of the railroads into 17 systems, and he asks that the carriers be not both regulated as monopolies and, at the same time, forced, with obvious inconsistency, to abide by anti-trust laws like unregulated industry.

●

JOB FOR BIG-MINDED MEN: There is some original and foresighted thinking in Mr. Conn's recommendation, which beyond question deserves serious study. The hearings before the Transport Board revealed no disposition on the part of beneficiaries of the chaotic and unequal *status quo* in transportation to yield to the general welfare a jot or tittle of their particular political advantages. The interest of large-minded men who can appreciate transportation as a whole—and who can subordinate narrowly selfish ends to the common good and to *principle*—must be awakened and invigorated, or "the battle of transportation" will be lost, and the whole nation will be permanently poorer therefor; and weaker militarily too.

●

WATERWAY CANDOR: Indicative of the limited degree to which some parties at interest in transportation are willing to go in yielding advantages achieved politically, to the goal of an integrated transportation system in the National interest—is the statement of Theodore Brent to the Transport Board. Mr. Brent spoke for the Mississippi Valley Association and several other waterway organizations. "Any attempt to make waterways pay their way," said this witness, "would . . . wipe waterway traffic off the map." Which perhaps is as eloquent a statement as has yet been made on the "economy and efficiency" of inland waterways.

●

EFFICIENT HIRING PLAN: The New York Central is going to extend the operation of its centralized employment office in New York to the hiring of trainmen, apprentices and several other classes of employees. For some months now, all clerical employees taken on in the metropolitan area have been selected through this office (which uses modern personnel appraisal methods)—instead of by direct action of departments where openings occur—and the results have encouraged the management to widen the system. The method not only assures that vacancies will be filled by the best available applicants, but it also provides for promotion of employees into other departments where opportunities offer, instead of preferring newcomers for the better openings. Other advantages of the system in locating high-quality personnel—at a time when it is scarce—are related in a short article elsewhere in these pages.

●

NEARLY 1,300,000 JOBS: In June the railroads had 1,292,595 employees—which was almost 12 per cent more than a year ago. The largest increase was in train and engine service (practically 15 per cent) and the smallest was in the m. of w. department (but, even here, the increase was almost 11 per cent).

●

CONSERVE OPEN TOPS: There are more closed cars to be had than open tops—despite which the Car Service Division notes "a decided trend" to load freight, formerly put in closed cars, into open ones. Accordingly, Warren Kendall has called upon transportation officers to require all loads which can be put into box cars, to be so loaded—conserving the scarcer open tops for jobs they alone can do.

"PROSPERITY" IS UNEVEN: There are some remarkable variations in the way traffic has been increasing, as is pointed out in the I.C.C. statistical review for May, summarized herein. For instance, the ratio of passenger revenue increase over last year was in the neighborhood of 150 per cent in the South and Southwest, but a more modest 73 per cent in the Great Lakes region. The record of net railway operating income is likewise most uneven—the Northwestern region actually experiencing a slight decrease in May, while another region (the Southwestern) had an increase as high as 115 per cent.

●

MAY ACCIDENTS: As is, unfortunately, to be expected in a period of rapid increase in train-mileage, train accidents in May were more numerous than in May, last year. They totaled 1,041—which was 29 per cent more than in May, 1940. Many categories of casualties showed decreases in May, however, despite the large increase in traffic (and hence of "exposure"). For example, passengers injured in train accidents were 44 per cent less, and employee fatalities declined—notwithstanding a large increase in employment, many of the newcomers being without experience. Accidental deaths from all causes during the month showed an increase of only about 1½ per cent, but grade crossing fatalities rose more than 23 per cent.

●

TRAINING FILMS: Motion picture films as a means of training employees in the most efficient practices — particularly the new ones and those of limited experience—appear to have demonstrated their effectiveness. Recently we recorded in our news pages that an aluminum manufacturer was making such films—on the proper working of aluminum—available to his customers, for the education of their employees. Herein announcement is made of similar films being offered by an electrical manufacturer to show welders how to perfect their performance.

●

DWINDLING REPAIR PARTS: In March of this year deliveries of materials to the railroads came to 79 million dollars. In April they declined to 76 millions and in May to 71 millions—the latter figure being lower than the 1941 monthly average. Meantime, the work is being piled upon the limited supply cars and locomotives as never before—a condition which, if these cars and engines are to be kept moving, calls for *more* repair parts, not less.

●

TANK CAR THRIFT: The ODT is in a glow of satisfaction at the results of its tank car order (General Order No. 7), restricting the use of such equipment to hauls 100 miles or over. Under this order the railroads relinquished, in the month of May alone, 14,200 carloads to their esteemed contemporaries on the highways. The ODT seems to have more success in getting the railroads to limit themselves to long hauls than it does in persuading the truckers to retire from that field.

LONGER LIFE for Rubber Cords & Cables in RAILROAD SERVICE

Watch Out for Ozone

Keep your cords and cables, as much as is practical, away from high voltage equipment and sparking motors. Such machines generate ozone which attacks rubber and hastens its deterioration.

Don't Abuse Cords

Protect cords from being run over by heavy moving equipment, dragged around sharp corners, yanked to remove kinks. While Okocord rubber-sheathed cords and cables are built for long life in railroad service, abuse shortens their life unnecessarily.

Avoid Short Diameter Flexing

Don't run cords and cables over small diameter pulleys or drums. Continued bending and flexing around a short radius breaks the conductors. Use larger diameter pulleys and get longer service from cords.

In this war, we must save materials wherever possible. One way to do this, is to make your portable cords and cables last longer than ever before, because rubber, synthetics, copper and steel are needed for our war effort.

Write for free booklet with 19 helpful illustrated ideas on "How to Get Longer Service from Rubber Insulated Wires and Cables."

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RAILWAY AGE

Efficiency FOR VICTORY

Materials for Maintenance

The railways are in danger of being prevented not only from getting enough new locomotives and cars, but enough materials *even to maintain their presently available facilities.* Inability to get needed new facilities is bad enough. Inability to get materials to maintain already available facilities would be worse. Shortage of materials for *both* would cause railroad capacity, now barely sufficient, to *decline.*

Railroad requirements are indicated by the fact that $900 million of materials were delivered last year. Information furnished by the railways to *Railway Age* shows such deliveries increased from $303 million in the first five months of 1941 to $372 million in the first five months of 1942, but after reaching this year's monthly maximum of $79 million in March, declined to $76 million in April and to $71 million in May—this last figure being less than the monthly average of 1941, although traffic has increased 32 per cent.

Nor, apparently, is this to be the worst of it. Said Defense Transportation Director Eastman in a recent address: "I was considerably worried when I heard there was a possibility the War Production Board might in the latter part of this year shut down the supply of materials in whole or in part. * * * I can't conceive of anything more critical and important than keeping the equipment the railroads have in topnotch condition. * * * The motive power particularly, as well as the cars, is under a terrific strain."

The strain, in fact, was never anywhere near so great. In March each freight locomotive, on the average, traveled 98.5 miles daily, as compared with 83.5 in March, 1941, and 63.8 in March, 1929, and hauled heavier trains. Locomotives are powerful machines, but immediately become unserviceable when there are not immediately available everything required for keeping their many parts in perfect condition and adjustment. Freight cars unavoidably have rough treatment; and each car, on the average, traveled 45 miles daily in March, as compared with 40 miles in March, 1941, and 32 miles in March, 1929. The more they are used the more they are damaged; and they also become unserviceable unless there are immediately available materials for repairs.

The maintenance problem is more difficult than ever before, because so much worn equipment which formerly would have been scrapped must now be repaired indefinitely, owing to inability to replace it. Track and other permanent structures, because being given the hardest use in history, also now require largely increased repairs.

The railways get most of their equipment, devices and materials from manufacturers; and both railways and manufacturers must get sufficient materials if efficient maintenance is to make possible continued efficient operation. The difficulties of the manufacturers are discussed elsewhere in this issue by R. D. Bartlett. There was no prospect of a shortage of railroad freight service as long as there was prospect of getting the equipment and materials being ordered. If there is any such shortage it will be because government prevents furnishing of imperatively needed materials.

The Railways vs. Japan

How effectively could this country be waging war with Japan—or even protecting our west coast from invasion—but for the super-service being rendered by the six or seven railroads connecting the rest of the country with the Pacific? The movement of materials, munitions and men involved is of huge proportions. Highway and air transportation would be futile; transportation via the Panama Canal has virtually ceased, and would be too slow, anyway.

The heavy reliance of the nation on its rail lines is revealed by their statistics. In March, 1942, the Santa Fe provided 107 per cent more ton-miles of freight service than in March, 1940; the Southern Pacific (Pacific Lines) 102 per cent more; the Union Pacific 74 per cent more; the Northern Pacific 75 per cent more; the Great Northern 79 per cent more, and the Milwaukee 54 per cent more.

These six lines (which are not alone involved) in March performed 10¼ billion ton-miles of freight service—equivalent to moving 10,000,000 tons an average of 1,250 miles. Probably half of this was a contribution to the war effort. The railroads being the only agency which, by any possibility, could move such an enormous traffic at reasonable speed, it follows inevitably that *we could not now be carrying on the war in the Pacific without the astounding service the railroads are rendering.*

This consideration should be given not only great but primary weight by the Transport Study Board in its investigation into the comparative economy and public service of competing transportation agencies. *National policy during the past twenty years has done nothing but discourage* the maintenance of adequate intercoastal rail service. The long-and-short-haul clause has been used to prevent the railways from retaining traffic greatly needed by them, especially in the depression 'Thirties. Highway transportation has been proliferated by every conceivable kind of governmental encouragement and aid. In effect, notice has been served on these railroads that the public did not want their services on the previous scale. If their managements had acted in accordance with public policy, they would have greatly reduced their capacity. They did no such thing, but maintained their properties to the highest level the limited resources allowed them would permit.

Now that the nation so vitally needs them in its time of greatest danger, it is *railroad* policy, not *government* policy—*private enterprise* and foresight, not bureaucratic "planning" and hindsight—to which it owes transportation essential to its protection and victory.

The necessity of efficient railroad service in war seems to be no more taken into account now than after the last war by those who are predicting that after this war traffic will be handled much more largely by air, highway and water. It won't be unless, after this war, as since the last war, government senselessly subsidizes and otherwise aids carriers incapable of providing equally economical and essential service. Will our present war experience teach our government policy-makers the obvious about their past transportation policies?

A penetrating observer has truly remarked: "Only the refusal of the Western lines to accept the fate decreed for them by national transportation policy—namely, shrinkage of their facilities by 50 per cent—has kept the Japs off our Pacific Coast."

Moving the Wheat

An annual spectacle of outstanding efficiency in mass transportation—moving the wheat—will be missing this summer. Since the introduction of combines concentrated the entire harvest into a few weeks, the railways in the winter and spring wheat territories, with the cooperation of the Car Service Division and the eastern railways, have worked out problems of car supply that were exceedingly difficult.

Last year, because of the large amount of old government-loan wheat in storage, it appeared that the railways would be called upon to handle the equivalent of two years' crops in a few weeks; and they spared neither trouble nor expense in making preparations—which it turned out were largely unnecessary. Unfavorable weather for harvesting delayed the movement in a number of sections, and, by the time wheat began to move in quantities, the glutting of storage facilities brought the movement to a halt.

This year the railways have been saved the expense of elaborate preparations because there has been no doubt that most of the crop could not move, there being no place for it to go. This means only a temporary loss of traffic, because, sooner or later, the wheat stored in terminals and sub-terminals, country elevators, vacant buildings in small towns, and on the farms will move; but under present disturbed world conditions, there is no telling when.

Meanwhile, there has been absence of the propaganda begun last year to hold the railways responsible for a "car shortage"; everybody knows the problem now is one of storage. But an attempt was made to get the railways to assume responsibility for the distribution of permits under which the wheat is to move, on the ground that, when an embargo is declared, the I. C. C. charges the railways with the responsibility of seeing that each shipper is treated fairly and without discrimination. The railways have argued successfully that they are in position to supply all transportation required for wheat, and, therefore, there is no reason why they should be called upon to constitute themselves the agency for distributing permits.

Fortunately, through the medium of the shippers advisory boards, "clearing houses" are available where all such problems can be discussed. The situation created by the Department of Agriculture's "ever normal

granary" plan is full of complexities. Without the prevailing complete co-operation of all the agencies involved, flooded terminals, cars standing for days and weeks under load, and interference with war production efforts might result. Under the present system of frank discussion of joint problems at advisory board meetings this could not happen.

Stimulating War Production

A dramatic incident occurred at one of the sessions of the War Conference of the National Industrial Advertisers Association at Atlantic City. At the very end of a long program, on the first day of the conference, C. J. Symington, president of the Symington-Gould Corporation, was called upon to address the group on labor-management co-operation in the war production drive. It was a most difficult and inauspicious place on the program; but the simple and direct story that he told in utmost frankness and sincerity, supplemented by typical posters used for educational purposes at the Rochester plant, electrified the audience, and at the close of his twenty-minute talk he was given an enthusiastic ovation.

Here was a man who, at the very outset, frankly admitted that his organization was skeptical about the workability of the labor-management plan, which had been suggested to industry by Donald Nelson. Nevertheless, they decided to give it a trial. Labor selected its four representatives on the labor-management committee, and "in selecting management members, care was taken to designate supervisors who stood high in the opinion of our labor ranks." And because it was clearly understood that the committee would deal only with matters relating to more production, and because the committee was dominated by sincerity—"confidence in the sincerity of the members, one to the other"—results quickly followed.

The committee approached its task with a view to working out its own procedures and techniques. An army tank, which was driven through the plant, enabled the workers to identify castings upon which they had worked. A suggestion box system was established, meritorious ideas being recognized by the awarding of war bonds and war stamps. Posters were designed of a serious nature and were personalized by using faces and scenes with which the workers were familiar. An attractive colored production chart was set up in a central location, so that the workers could follow day-by-day progress. Within thirty days production jumped 14 per cent and the output per man-hour increased 8¾ per cent.

The joint committee developed its own program; it made mistakes, but these were insignificant compared with the unique and splendid ideas which it developed, that made a strong appeal to the workers and secured their enthusiastic co-operation. Basically, however—and Mr. Symington emphasized this—the results were made possible because of the spirit of sincerity and the confidence that the members had in each other. He expressed the opinion, also, that out of the experiences of this wartime effort might well develop those understandings that will be so necessary in facing postwar readjustments.

The late Daniel Willard in summing up the results of union-management co-operation on the Baltimore & Ohio, as was pointed out in the *Railway Age* of April 18, 1942, indicated that the success of the movement was based upon mutual trust and understanding. He insisted that such a project could only succeed when the participators were "fair" to each other. Experiences on the Baltimore & Ohio and the Canadian National, under peace-time conditions, would seem to confirm Mr. Symington's prediction as to the possibilities for labor-management co-operation in the future.

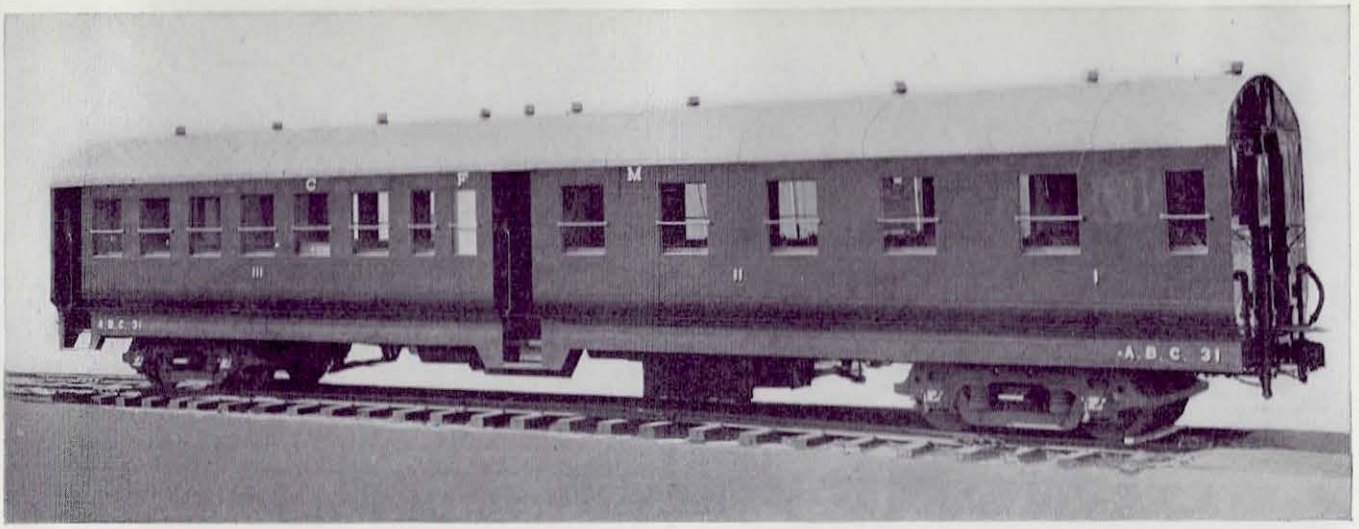
Daniel Willard

Although he was 81 years old, had had a very full life, and had virtually retired, Daniel Willard's passing will be regarded as a great loss throughout the railroad industry and the nation. A man of simple tastes, and very modest in discussing his talents and achievements, he will always be ranked by those familiar with railroad history among the giants of the industry.

He had a playfulness and sense of humor that he usually showed only among his intimates. He had a kindliness and affectionateness, also, that they only knew. He was so interested in everything that he studied almost everything, and, without much schooling, was truly learned. He had indefatigable industry, energy and driving force, and, until within recent years, exhausted all his colleagues and associates who tried to keep pace with him. He had a keen Yankee shrewdness that usually enabled him to hold his own in negotiations, but, at the same time, he possessed as fine a conscience as ever helped or hampered a man in "practical" affairs.

Although he rose through the operating department, he had, because of many years of the most intensive study, observation and experience, an unsurpassed mastery of every branch of railroading. His reputation for tolerance of opposing views, for real friendliness for working men, and for willingness to accept every reasonable form of regulation, gave him an extraordinary influence with leaders of labor unions and with public men in Washington.

In short, Daniel Willard was as truly a great man—as truly a good man, an able executive, an able statesman, an ideal citizen—as this nation has ever produced; and, while so deeply regretting his loss, the railroad industry is deeply proud that his long career of honest, arduous achievement was devoted to it.



Mixed-Class Coach for Service on the Mozambique Railway, Portuguese East Africa, Built By American Car & Foundry Co.

Steel Coaches to East Africa

Portuguese Mozambique Railways install lightweight cars in high-speed service

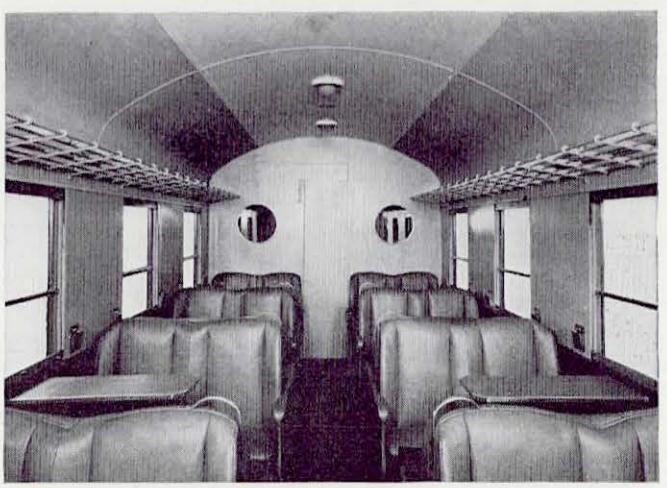
THE American Car & Foundry Co. at Berwick, Pa., has recently completed three mixed coaches of 3-ft. 6-in. gage and four third-class coaches of 29½ in. gage for the Mozambique Railway, Portuguese East Africa. The mixed coaches are equipped to carry 12 first-class passengers, 32 second-class, and 80 third-class, a total of 124 passengers each. The third-class coaches are shorter and narrower but accommodate a total of 80 passengers using 76 regular seats and 4 folding auxiliary seats.

Low-alloy high-tensile steels were used throughout the framing and strength members resulting in a substantial saving of weight on these cars. Center sills consist of two 21.9-lb. rolled-steel channels extending for the full length of the car which are tied together at the top with a full-length cover plate welded to the channel top flanges. Built-up I-beam crossbearers span the width of the car and consist of the top and bottom cover plates welded to a web plate. The bolsters consist of a box shaped member formed by top and bottom cover plates welded to two web plates. This is provided with a welded bolster center-filler and cast-steel body center plate. A suitable number of 13-gage pressed channel floor beams are provided between the cross bearers and welded in place at the side sill and the center sill.

The underframe sub-assembly portion of the side sill is a light gage pressed zee member which is substantially welded to all of the transverse members. The underframe is securely braced against racking by the provision of a light-gage alloy-steel sub-floor sheet covering the entire underframe, making a water-tight and well-insulated dead-air chamber beneath the plywood floor to the first- and second-class compartments, and the tongue-and-groove maple floor in the third-class compartment and third-class coach. The end sills and platform sills consist of built-up formed shapes and pressings which tie in with a pressed steel buffer end of all-welded con-construction.

Principal Weights and Dimensions of New Coaches for Mozambique Railway

	Mixed coaches	Third-class coaches
Track gage, in.	36	29½
Light weight of car on rails, lb.	55,900	36,500
Loaded weight of car on rails, lb.	74,500	48,500
Weight of trucks, lb.	21,000	16,000
Length over-all coupled, ft.-in.	61-9⅝	45-9¾
Truck centers, ft.-in.	42-8	30-6
Width over side posts, ft.-in.	9-2	6-8¾
Width over side sills, ft.-in.	8-0^{5}/$_{16}$	5-10⅜
Height, rail to top of roof sheet, ft.-in.	12-1¾	9-8^{11}/$_{16}$
Height, rail to top of floor, ft.-in.	3-8⅛	2-7^{11}/$_{16}$
Height, inside floor to ceiling, ft.-in.	8-2^{11}/$_{16}$	6-10⅛

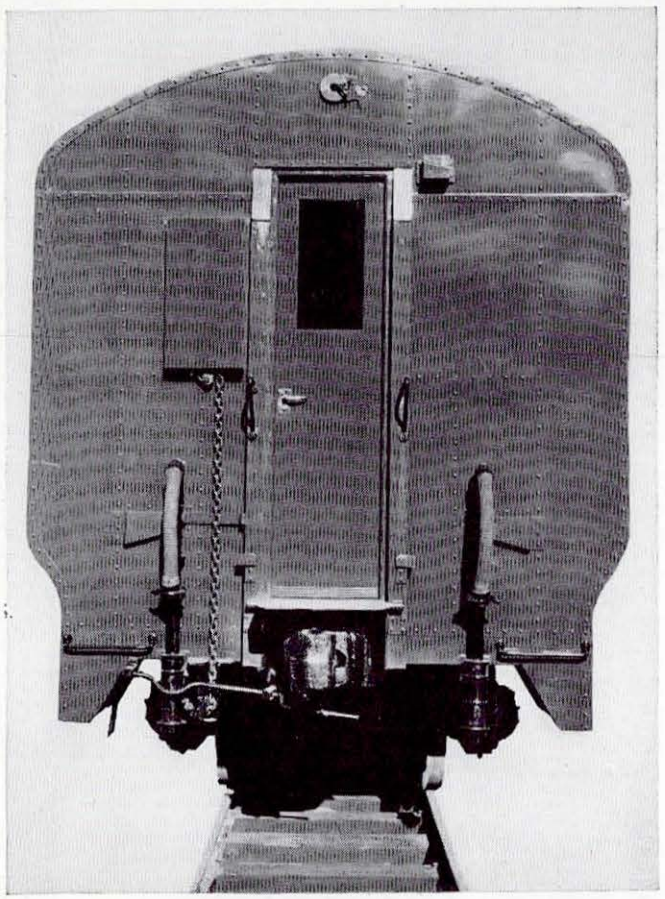


Second-Class Compartment of the Mozambique Railway Coach

The side frame consists of a rolled-angle side sill and side plate. The pressed post, belt rail and window header when welded together make a stiff framing to which the side sheets are spot welded. Due to the narrow clearances on these railroads at the side sill height, an ogee curve in the side girders just above the side sills accomplishes a narrowing of the width at this point of $13\frac{11}{16}$ in. on the mixed coaches and 10 in. on the narrower third-class coaches.

In the mixed coaches a center entrance is installed for the first- and second-class passengers and, where the side sills are cut away for this entrance, a reinforcing channel is added beneath the bottom step forming a triangular shaped truss with the door post and side sill on each side of the entrance.

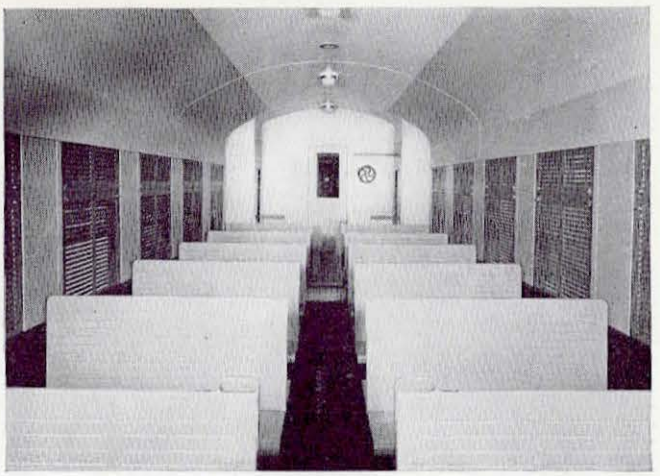
The end framing consists of rolled-steel angle corner posts and door posts combined with pressed zee intermediate posts and 6-in. rolled I-beam center posts to make a strong end sub-assembly. The ends are sheathed with 14-gage steel sheets and strengthening is added to take care of the anti-telescoping feature.



Brake End View of a Mixed-Class Coach Which Indicates the Adoption of the American Standard Vertical Plane Coupler on One Division of the Mozambique Railway

The roof framing consists of lightweight side-plate angles to which are arc welded pressed zee-shaped carlines. Four lines of zee-shaped purlines run the full length of the car and they are welded to each carline. This framing is then riveted to the 16-gage roof sheets and, when finally riveted to the side girders, forms an extremely stiff unit.

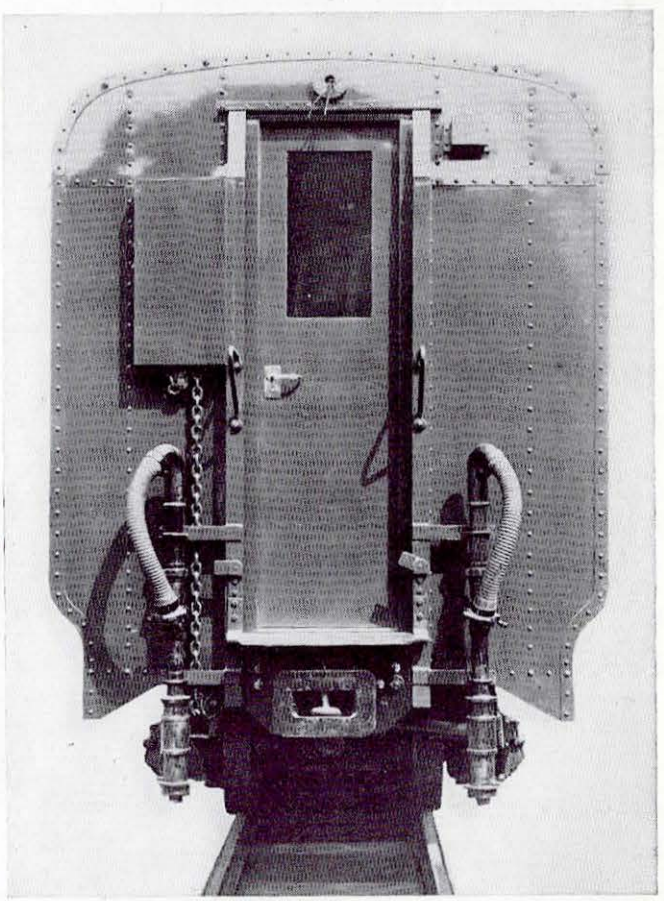
The windows are of the drop-action balanced type; they slide in cushioned guides, and are designed to stay in any desired position. The sash drops in behind the wainscoting, leaving the upper two thirds of the window



Third-Class Compartment—Steel Shutters Are Shown in Position for Protection Against Sun or Rain

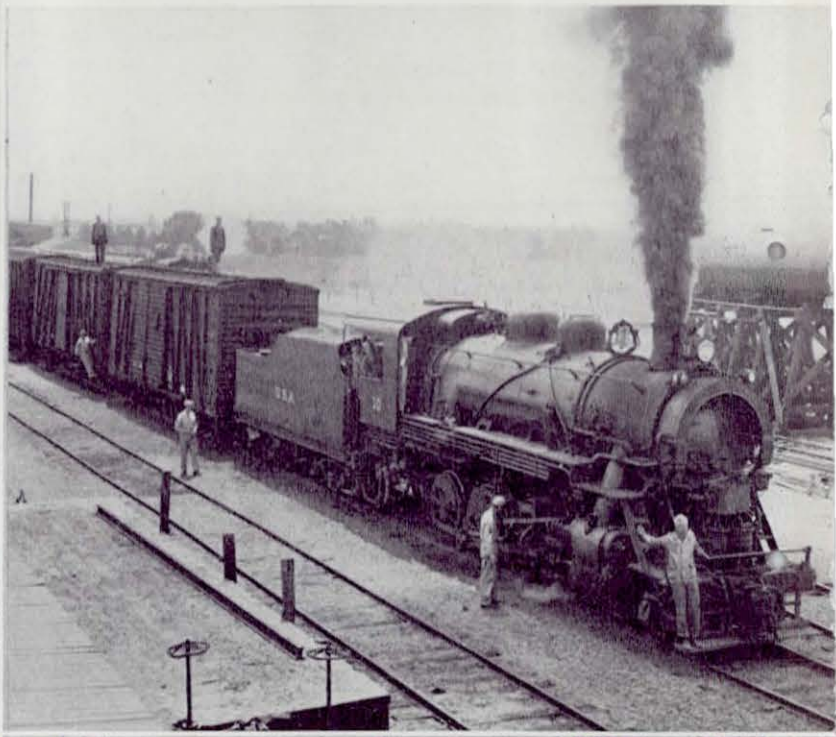
open. Chrome-plated bars inside and out protect the upper rail of the sash when luggage is passed in and out through the windows, which is an operating custom in Portuguese East Africa. Louvered steel shutters inside the windows are used as protection against sun and tropical rain when the window sash is open. Suitable to the tropical climate, the cars are decorated in cool colors, the schemes being built around blues and grays.

The cars were built for a new program of fast passenger service and will operate at a maximum speed of about 60 m. p. h.



Brake End View of Third-Class Coach to Be Used on Another Division of the Mozambique Railway Where the Link-and-Pin Coupler Is Still In Use

Military Railroad at Camp Claiborne



All Photos Acme

711TH ENGINEER BATTALION BUILDS AND OPERATES ITS OWN 48-MILE LINE

Upper Left—Sgt. Technician Glenn Snyder of Ft. Wayne (Engineer) and Sgt. Ralph Perry (Conductor) of Oelwein.

Lower Left—Construction Progresses Toward "Golden Spike", Due on July 11.

Upper Right—In the Yard.

Lower Right—Pvt. A. C. Davison (Operator) of Gt. Neck, N. Y.

Getting the Best Men Available

New York Central hires all N. Y. clerical employees through central office with modern personnel appraisal methods — System soon to be extended to include other occupations

THE New York Central for several months has had in operation in the New York area a centralized employment office for clerical workers—an agency which has proved effective in securing the highest available type of employees in a period of employment expansion, with a relatively limited labor market.

Prior to the establishment of the centralized employment office, each department did its own hiring. Applicants for positions under such conditions, perforce, have to make the rounds of a considerable number of officers—among which varying standards and predilections may prevail; and it is possible, under such conditions, for one department to be turning applicants away whom another department would be very glad to get. The centralized employment office weeds out the unfit, thereby saving the time of officers in the departments doing the hiring. It also avoids the risk of turning away desirable applicants, while less desirable ones get the jobs. Under the new set-up, a department in need of a clerical employee makes known its desire to the employment office—on a prepared form, telling what the job pays, whether it is permanent or temporary, what the desired qualifications are as to experience and education, and what age range and sex of employee are sought.

How Applicant Gets on Payroll

The employment office selects from among its file of applicants the one who appears most fully to satisfy the requirements of the position, and sends him to the department making the request. If this designee is not acceptable to the department having the vacancy, reasons for rejection are supplied by it to the central employment office—which then selects another applicant for interview. All this is to say that, actually putting the employee on the payroll is a function which is reserved, as heretofore, to the department in which he will work. On the other hand, the department seeking an employee must make its selection from applicants sent to it by the employment office. The department looking for help is, thus, not obliged to take on employees of whom it does not approve—but neither is it possible for it to give a position to an applicant who falls below the standards set by the central employment office. Indeed, there is an order in effect which forbids entering the name of a new clerical employee on the payroll in the New York area, without written authorization from the central employment office.

In charge of the employment office is an assistant to the manager of personnel, who also has an assistant—both being men of long service with the railroad, who have supplemented their practical experience with professional academic study of personnel methods. These men interview male applicants, while two women assistants, thoroughly trained in personnel work, interview female aspirants to a railroad career. Applicants are graded numerically by the interviewers as "excellent" (4), "very good" (3), "satisfactory" (2), "fair" (1), or "poor" (0) on each of eleven desirable characteristics, namely, appearance, enthusiasm, judgment, emotional stability, self-confidence, personality, voice and speech, general health, general education, business experience, and courtesy. Thus it would be possible for the perfect applicant to attain a numerical rating of 44. None attain such a rating. On the other hand, even for relatively minor positions, it has not yet been found necessary to employ any applicant with less than 22 points—which would place him, on the average, in the lower reaches of the "very good" category.

Accurate Appraisal by Interviewers

The persons doing the interviewing are sufficiently well trained that their observations are not haphazard—as is disclosed by a frequent check, i.e., having an applicant interviewed by two or more persons and comparing their ratings. They seldom differ to a material extent.

In connection with the greater care being exercised in the hiring of clerical employees, under this program, the personnel department has thoroughly revised—in the light of modern conditions—its form of application for employment. Information in considerable detail is required of the prospective employee—but all of it has some reference to his eligibility for a job. The result is an application blank which is far less formidable than the applicant often faces when he seeks railroad work. Domestic status, nationality of parents, state of health, details of education, and a complete record of past employment with wages paid and reasons for leaving—such is among the information required. The applicant is also called upon to sign a request addressed to each of his former employers, asking and authorizing them to provide the New York Central with full information as to his record of service and his reasons for leaving. An innovation for clerical employees—applicants are also expected to pass a physical examination before being accepted as permanent employees. They are also now being asked, as a part of the national defense program, to record their fingerprints for the records the FBI is making of all employees engaged around facilities which are essential to the war effort.

Will Hire Trainmen This Way Too

This employment office, as indicated at the outset, deals only with clerical employees. However, applicants for other jobs come to it, and these are referred, with a note of introduction from the personnel department, to the proper departments which may have need of their services. The employment office policy is to give each and every applicant courteous, intelligent and reasonably prompt attention and, thereby, to create a feeling of friendliness to the railroad on the part of all applicants. In other words, the employment office is

(*Continued on page 56*)

More Tie Renewals Made in 1941

Data reported by A. R. E. A. Committee on Ties show replacements 8.3 per cent larger than in 1940

SEVENTY-THREE railways in the United States and Canada inserted in renewals more ties per mile of maintained track in 1941 than in 1940, while 55 renewed less ties, 5 applied the same number, 1 used only second-hand ties for its replacements and one road, the Colorado & Wyoming, became Class I on January 1, 1941. Of these 135 roads, 132 are in the United States and 3 in Canada. Those in the United States inserted 47,224,593 ties in replacement in 1941, compared with 43,616,634 ties in 1940, an increase of 3,607,959 ties, or 8.3 per cent. The three Canadian roads inserted 8,759,418 ties in 1941, compared with 8,973,053 ties in 1940, a decrease of 213,635 ties, or 2 per cent. These and other important comparisons can be drawn from the tabulation of statistics relating to tie renewals compiled by the Bureau of Railway Economics from reports made

Statistics of Crosstie Renewals on Leading Railroads in the United States and Canada for the Calendar Year Ending December 31, 1941

Road	Miles of maintained track occupied by cross ties	Total number of wooden crossties renewed in 1941	Number of wooden crosstie renewals per mile of maintained track		Per cent of wooden crosstie renewals to all ties in tracks		New wooden ties untreated (U)		New wooden ties treated (T)		Weighted average cost per new wooden crosstie	Cost of new wooden crosstie renewals per mile of maintained track	Cost of new wooden crosstie renewals per thousand equated gross ton-miles (cents)
			1941	5 year average	1941	5 year average	Per cent applied	Average cost	Per cent applied	Average cost			
New England Region:													
Bang. & Aroos.	825.98	120,296	146	178	5.1	6.2	100	$0.63	....	....	$0.63	$ 92	$5.74
B. & M.	3,044.69	370,332	122	93	4.1	3.1	12.5	0.92	87.5	$1.66	1.56	190	3.69
C. N. R. (Lines in N. E.)	249.53	46,298	186	152	6.0	4.9	30.7	0.67	69.3	1.26	1.08	200	6.49
C. P. R. (Lines in Me.)	213.84	9,892	46	81	1.5	2.7	1.4	0.50	98.6	1.37	1.36	63	0.67
C. P. R. (Lines in Vt.)	125.99	10,929	87	61	2.9	2.0	0.7	0.60	99.3	1.52	1.51	131	2.65
C. Vt.	498.12	34,390	69	94	2.4	3.2	1.3	0.58	98.7	1.38	1.37	95	1.74
Me. Cent.	1,236.28	189,245	153	185	5.0	6.1	49.1	0.79	50.9	1.90	1.36	208	6.76
N. Y. Connecting	25.90	8,213	317	312	10.1	9.9	....	....	100	1.80	1.80	571	3.27
N. Y. N. H. & H.	3,927.66	250,877	64	69	2.1	2.3	....	....	100	1.07	1.07	68	1.12
Rutland	499.79	22,043	44	54	1.4	1.7	....	....	100	1.42	1.42	63	1.95
Total	10,647.78	1,062,515	100	101	3.3	3.4	25.8	0.74	74.2	1.46	1.27	127	2.55
Great Lakes Region:													
Ann Arbor	403.84	37,961	94	92	3.1	3.1	....	....	100	1.50	1.50	141	3.35
Cambria & Ind.	58.45	18,937	324	333	11.9	12.4	3.1	1.01	96.9	1.86	1.83	594	19.36
D. & H.	1,402.19	236,305	169	117	5.5	3.8	1.3	1.28	98.7	1.57	1.56	264	2.99
D. L. & W.	2,299.42	189,268	82	60	2.8	2.1	....	....	88.*	1.62	1.62	134	1.69
Det. & Mack.	293.10	32,026	109	124	3.6	4.1	58.2	0.53	41.8	0.77	0.63	69	8.94
D. T. & Shore Line	151.49	16,571	109	110	3.6	3.6	....	....	98.5*	1.79	1.79	195	3.39
Erie (Incl. C. & E.)	4,785.06	406,923	85	86	2.9	2.9	....	....	100	1.46	1.46	124	1.49
G. T. W.	1,930.95	349,247	181	160	5.7	5.1	....	....	100	1.51	1.51	274	5.49
L. & H. R.	114.27	10,966	96	93	3.6	3.5	....	....	100	2.37	2.37	227	3.22
L. & N. E.	264.00	15,121	57	61	1.9	2.0	....	....	100	1.79	1.79	103	2.59
L. V.	2,667.25	167,444	63	48	2.1	1.6	....	....	100	1.72	1.72	108	1.61
Monongahela	242.51	36,108	149	159	5.1	5.5	4.2	0.87	95.8	1.65	1.62	241	4.87
Montour	71.96	6,199	86	96	3.0	3.4	1.5	1.49	97.2*	2.29	2.27	196	4.21
N. Y. C.	21,795.73	2,672,210	123	99	4.0	3.2	....†	1.48	99.4*	1.56	1.56	191	2.34
N. Y. C. & St. L.	2,521.31	347,399	138	116	4.4	3.7	....	....	100	1.54	1.54	212	2.35
N. Y. O. & W.	830.14	.....	...	20	....	0.7	....*	....	....*	....	....	....	....
N. Y. S. & W.	215.76	13,649	63	73	2.2	2.5	....	....	100	0.56	0.56	35	1.91
P. M.	2,768.45	471,109	170	167	5.6	5.5	....	....	100	1.55	1.55	264	5.76
P. & L. E.	912.15	110,828	122	78	4.1	2.6	0.3	0.98	99.7	1.88	1.88	228	3.79
P. & S.	119.68	18,685	156	237	5.6	8.5	13.1	1.03	58.9*	1.94	1.77	277	11.79
P. & W. Va.	183.54	53,513	292	271	9.6	9.1	0.9	1.15	99.1	2.04	2.03	591	8.88
P. S. & N.	220.80	38,397	174	157	5.9	5.4	100	1.01	....	....	1.01	176	8.17
Wabash	3,172.45	478,223	151	153	4.8	4.9	....	....	100	1.58	1.58	238	3.25
Total	47,424.50	5,727,089	121	104	4.0	3.4	1.1	0.88	97.5*	1.57	1.56	188	2.54
Central Eastern Region:													
A. C. & Y.	213.89	51,820	242	180	8.4	6.2	55.6	1.41	44.4	1.43	1.42	344	10.56
B. & O.	10,548.36	1,620,820	154	122	5.4	4.3	0.3	0.90	99.7	1.56	1.56	240	3.01
B. & L. E.	488.04	59,272	121	189	4.0	6.1	....	....	100	2.11	2.11	257	2.38
C. of N. J.	1,454.38	168,194	116	76	4.1	2.7	....	....	100	1.72	1.72	199	3.01
C. & E. I.	1,357.34	158,957	117	108	3.8	3.6	....	....	100	1.17	1.17	137	2.67
C. & I. M.	170.28	14,437	85	75	2.8	2.4	....	....	100	2.04	2.04	173	2.34
C. I. & L.	792.45	70,876	89	123	2.9	4.0	....	....	99.8*	1.16	1.16	103	2.26
D. T. & I.	602.70	39,386	65	97	2.3	3.4	1.	0.66	99	1.43	1.42	93	2.83
E. J. & E.	868.98	174,250	201	181	6.5	5.8	....	....	98.1*	1.56	1.56	312	6.61
Ill. Term.	634.91	65,823	104	94	3.5	3.2	12.	0.88	85.9*	1.27	1.22	126	7.05
Long Island	800.25	56,166	70	68	2.5	2.3	....	....	100	1.85	1.85	130	2.73
Missouri-Ill.	215.09	45,371	211	281	6.7	9.0	11.5	0.69	88.5	1.27	1.20	254	13.70
Penna.	21,300.49	2,310,869	108	87	3.8	3.1	....†	0.70	99.9	1.55	1.55	168	1.68
P.-R. Seashore Lines	654.17	55,397	85	87	3.1	3.2	....	....	100	1.93	1.93	163	5.59
Reading	2,999.69	228,647	76	49	2.8	1.8	....	....	100	1.82	1.82	139	2.14
S. I. Rap. Tran.	80.50	3,839	48	58	1.7	2.1	....	....	100	1.85	1.85	88	5.07
W. M.	1,165.72	164,000	141	167	4.9	5.8	15.2	1.03	84.8	1.71	1.60	226	3.51
W. & L. E.	841.36	195,943	233	173	7.8	5.7	....†	0.85	97.6*	1.47	1.47	341	4.07
Total	45,188.60	5,484,067	121	101	4.2	3.6	1.7	1.12	98.4*	1.57	1.56	189	2.30
Pocahontas Region:													
C. & O.	5,079.32	462,283	91	80	3.0	2.6	0.1	0.87	99.8*	1.35	1.35	123	1.08
N. & W.	4,243.14	188,745	44	37	1.4	1.2	....	....	92.4*	1.35	1.35	60	0.55
R. F. & P.	372.38	144,704	389	317	13.6	11.1	....	....	99.8*	1.70	1.70	663	4.64
Va.	875.89	97,218	111	166	3.6	5.3	....†	0.80	96.4*	1.36	1.36	150	1.34
Total	10,570.73	892,950	84	78	2.7	2.5	....†	0.87	97.7*	1.41	1.41	119	1.05

Statistics of Crosstie Renewals on Leading Railroads in the United States and Canada for the Calendar Year Ending December 31, 1941—Continued

Road	Miles of maintained track occupied by cross ties	Total number of wooden crossties renewed in 1941	Number of of wooden crosstie renewals per mile of maintained track: 1941	Number of of wooden crosstie renewals per mile of maintained track: 5 year average	Per cent of wooden crosstie renewals to all ties in tracks: 1941	Per cent of wooden crosstie renewals to all ties in tracks: 5 year average	New wooden ties untreated (U): Per cent applied	New wooden ties untreated (U): Average cost	New wooden ties treated (T): Per cent applied	New wooden ties treated (T): Average cost	Weighted average cost per new wooden crosstie	Cost of new wooden crosstie renewals per mile of maintained track	Cost of new wooden crosstie renewals per thousand equated gross ton-miles (cents)
Southern Region:													
A. G. S.	548.82	43,460	79	123	2.6	4.0	2.6	1.35	97.4	1.79	1.78	141	1.85
A. & W. P.	140.28	34,619	247	187	8.0	6.1	91.	1.25	9.	1.26	1.25	308	5.28
W. R. of Ala.	182.36	59,869	328	197	10.8	6.5	94.5	1.25	5.5	1.38	1.26	413	8.36
A. B. & C.	795.48	117,169	147	156	5.1	5.4	22.7	0.81	77.3	1.20	1.11	164	5.85
A. C. L.	6,736.01	790,757	117	121	4.0	4.1	54.1	0.87	45.9	1.26	1.05	123	2.84
C. of Ga.	2,279.88	364,888	160	151	5.4	5.2	0.5	0.82	99.5	1.08	1.08	173	4.37
C. & W. C.	427.81	56,105	131	141	4.5	4.9	100	1.09	....	....	1.09	143	5.41
C. N. O. & T. P.	768.17	47,097	61	81	2.0	2.6	....	....	100	1.76	1.76	108	0.93
Clinchfield	401.00	92,578	231	254	7.6	8.4	55.2	0.77	44.8	1.58	1.13	261	2.64
Col. & Green.	204.15	29,189	143	182	4.5	5.7	21.	0.62	79.	1.35	1.19	171	10.36
F. E. C.	1,341.03	209,801	156	173	5.5	6.1	84.7	1.03	15.3	1.93	1.17	183	4.63
Georgia	436.98	102,693	235	172	7.7	5.6	96.5	1.16	3.5	1.07	1.16	272	6.05
G. & F.	454.99	93,169	205	211	7.6	7.8	100	0.67	....	....	0.67	138	10.50
G. S. & F.	468.43	59,707	127	104	4.1	3.3	100	1.11	....	....	1.11	142	4.02
G. & S. I.	310.03	73,503	237	211	7.7	6.9	....	....	100	1.04	1.04	247	12.82
G. M. & O.	2,044.59	667,188	326	307	10.3	9.7	13.7	0.67	84.2*	1.10	1.04	341	8.33
I. C.	7,658.72	1,481,868	194	168	6.3	5.5	1.5	0.97	98.2*	1.09	1.09	211	3.15
Y. & M. V.	2,044.46	463,758	227	188	7.4	6.1	15.3	0.74	84.7	1.12	1.06	240	7.02
L. & N.	6,798.30	933,393	137	121	4.8	4.2	1.6	1.13	98.4	1.45	1.45	198	2.88
Miss. Cent.	174.25	52,888	304	303	9.6	9.6	....	....	100	1.08	1.08	328	25.08
N. C. & St. L.	1,499.75	150,659	100	107	3.7	3.9	....	....	100	1.38	1.38	139	2.84
N. O. & N. E.	281.16	29,538	105	108	3.4	3.5	....	....	100	1.68	1.68	176	2.52
Nor. Sou.	848.57	273,548	322	329	11.7	11.4	100	0.66	....	....	0.66	213	10.86
S. A. L.	5,357.37	981,392	183	189	6.0	6.2	27.6	0.98	72.4	1.27	1.19	217	4.16
Southern	8,642.62	1,586,200	184	204	5.9	6.5	26.9	1.26	73.1	1.67	1.56	286	4.88
Tenn. Cent.	339.12	98,846	291	244	9.6	8.1	73.1	0.79	26.9	1.71	1.03	301	11.52
Total	51,184.33	8,893,882	174	170	5.8	5.7	26.2	0.96	73.6*	1.31	1.21	211	3.92
Northwestern Region:													
C. & N. W.	11,707.94	1,554,246	133	137	4.5	4.6	4.5	$0.57	95.5	$.06	$1.04	$138	$3.72
C. G. W.	1,889.49	307,930	163	164	5.5	5.5	48.4	0.99	51.6	1.51	1.26	205	3.84
C. M. St. P. & P.	13,716.34	2,272,776	166	156	5.4	5.1	21.4	0.58	78.6	1.35	1.19	197	4.77
C. St. P. M. & O.	2,206.32	374,332	170	177	5.7	6.0	6.4	0.59	93.6	1.26	1.22	206	5.94
D. M. & I. R.	1,103.93	148,565	135	101	4.5	3.4	16.	0.72	84.	1.63	1.49	200	3.37
D. S. S. & A.	517.45	105,627	204	205	7.2	7.2	77.9	0.61	22.1	1.24	0.75	154	8.17
D. W. & P.	209.77	68,354	326	313	11.1	10.5	63.7	0.60	36.3	1.43	0.90	294	9.60
G. N.	9,898.27	1,505,605	152	131	4.9	4.2	1.4	0.42	95.6*	1.30	1.29	196	4.01
G. B. & W.	284.42	111,249	391	349	13.6	12.1	96.4	0.91	3.6	1.55	0.93	365	18.14
L. S. & I.	235.73	43,613	185	175	6.2	5.8	92.3	0.62	7.7	1.54	0.69	128	13.05
M. & St. L.	1,563.61	345,839	221	213	7.3	7.0	88.4	0.78	11.6	1.40	0.85	189	8.49
M. St. P. & S. S. M.	4,926.17	681,040	138	148	4.7	5.0	53.2	0.65	46.5	1.18	0.90	124	4.57
N. P.	9,166.77	1,257,521	137	133	4.7	4.6	1.9	0.43	98.1	1.16	1.14	157	3.92
Spokane Int.	175.14	61,270	350	346	12.0	12.1	100	0.50	....†	1.67	0.50	174	11.78
S. P. & S.	1,096.15	304,164	277	227	9.6	7.6	9.4	0.61	90.6	1.37	1.30	361	7.91
Total	58,697.50	9,142,131	156	149	5.2	5.0	19.9	0.68	79.6*	1.25	1.13	177	4.43
Central Western Region:													
Alton	1,506.61	352,015	234	242	7.8	8.0	65.5	1.12	32.9*	1.70	1.31	307	5.85
A. T. & S. F.	19,261.97	1,940,177	101	100	3.3	3.3	....	....	100	1.28	1.28	129	2.28
C. B. & Q.	12,088.01	2,243,535	186	156	6.0	5.0	....	....	97.3*	1.22	1.22	227	5.00
C. R. I. & P. (inc. C. R. I. & G.)	9,721.69	1,005,628	103	115	3.5	3.8	....	....	100	1.04	1.04	107	2.38
C. & S.	842.23	89,615	106	92	3.5	3.0	5.8	0.53	82.4*	1.31	1.26	134	3.40
C. & W.	104.87	10,354	99	...	3.5	....	0.7	0.57	99.3	1.79	1.78	175	9.85
D. & R. G. W.	3,134.36	130,160	42	78	1.3	2.5	5.2	0.48	77.*	1.21	1.16	48	1.03
D. & S. L.	314.87	43,054	137	176	4.5	5.8	....	....	100	1.34	1.34	183	6.99
F. W. & D. C.	946.00	66,042	70	86	2.3	2.9	....	....	94.1*	1.19	1.19	83	2.83
Nev. Nor.	191.02	36,809	193	172	6.7	6.0	100	0.91	....	....	0.91	176	23.98
Northwestern Pac.	443.89	81,454	184	153	6.4	5.3	99.8	0.84	0.2	1.10	0.84	154	6.54
S. P.	12,252.55	1,255,191	102	98	3.4	3.2	11.2	0.82	88.7*	1.22	1.18	121	1.51
T. P. & W.	277.15	45,478	164	272	5.2	8.6	0.3	0.40	99.7	1.25	1.25	205	6.82
U. P.	13,142.32	2,463,208	187	165	6.6	5.9	0.4	0.69	99.6	1.11	1.11	208	2.63
Utah	72.19	9,163	127	107	4.5	3.9	9.5	0.71	82.3*	2.27	2.11	267	7.92
W. P.	1,477.62	489,356	331	326	11.1	11.0	40.6	0.86	59.1	1.39	1.18	389	5.08
Total	75,777.35	10,261,239	135	130	4.5	4.3	6.9	0.93	92.*	1.20	1.18	160	2.68
Southwestern Region:													
B.-R. I.	205.98	14,166	69	75	2.2	2.4	....	....	100	0.97	0.97	67	3.75
G. C. L.													
B. S. L. & W.	139.97	13,430	96	105	3.2	3.5	....	....	100	1.14	1.14	110	1.33
N. O. T. & M.	225.08	26,665	118	170	3.9	5.6	....	....	100	1.14	1.14	135	3.01
St. L. B. & M.	757.71	101,251	134	123	4.4	4.0	....	....	93.8*	1.10	1.10	147	4.07
S. A. U. & G.	359.56	32,916	92	129	3.2	4.5	....	....	100	1.04	1.04	96	6.46
I.-G. N.	1,470.36	162,293	111	111	3.7	3.7	....	....	100	1.10	1.10	123	3.17
K. C. S.	1,248.39	305,288	245	158	7.7	5.0	0.2	0.62	99.8	1.06	1.06	258	4.51
K. O. & G.	350.01	14,040	42	120	1.4	4.0	....	....	100	1.05	1.05	44	1.84
L. & A.	907.48	222,925	246	232	7.6	7.3	1.5	0.50	98.5	1.01	1.00	247	6.86
M. V.	377.46	23,721	63	85	2.1	2.9	....	....	100	1.06	1.06	67	6.34
Mo. & Ark.	358.52	123,167	344	356	11.0	11.4	100	0.52	....	....	0.52	180	13.25
M.-K.-T.	4,035.48	527,797	131	109	4.2	3.5	8.	0.72	92.	1.09	1.06	139	3.66
M. P.	8,970.38	1,515,652	169	178	5.5	5.8	3.5	0.70	96.5	1.11	1.09	184	3.31
O. C.-A. A.	137.20	27,194	198	207	6.9	7.1	70.9	0.63	29.1	0.45	0.58	115	22.21
St. L.-S. F.	6,382.99	716,915	112	152	3.6	4.8	3.3	0.74	96.7	1.04	1.03	116	2.95
St. L. S. F. & T.	153.02	23,336	153	164	5.0	5.1	....	....	100	1.00	1.00	153	4.49
St. L. Sw.	1,843.00	334,532	182	174	5.8	5.5	....	....	87.*	1.19	1.19	215	3.67
T. & N. O.	5,611.44	779,005	139	136	5.1	5.0	....†	0.66	100	0.89	0.89	124	2.94
T. & P.	2,430.42	414,838	171	114	5.8	3.9	....	....	100	1.04	1.04	177	3.19
Tex. Mex.	204.00	31,011	155	172	4.9	5.6	1.5	0.29	98.5	1.26	1.25	193	23.72
Total	36,168.45	5,412,912	150	151	4.9	5.0	4.9	0.62	94.1*	1.05	1.03	155	3.44
Grand Total—United States	335,659.24	46,870,815	140	131	4.7	4.4	11.8	0.84	87.5*	1.31	1.26	176	2.92
Canadian Roads:													
C. N.	26,884.00	5,588,971	208	216	7.1	7.4	64.7	0.61	35.3	1.30	0.88	182	5.16
C. P.	21,285.00	2,963,149	139	154	4.9	5.4	48.5	0.60	51.5	1.27	0.94	131	3.34
T. & N. O.	681.37	210,298	309	265	10.6	9.1	100	0.66	....	....	0.66	205	8.61

* Owing to the fact that the total number of ties inserted on some roads included some second-hand ties, ties other than wood, tie blocks, etc., the percentages of treated and untreated ties do not total 100 per cent in all cases.

‡ These are storekeepers' average costs of ties charged out and used. They are not the actual costs or the prices paid for ties purchased during the period.

† Proportion is less than 0.1 per cent.

to the Interstate Commerce Commission by the roads, and reproduced here in condensed form.

In general, while the number of ties renewed per mile of maintained track, with the exceptions to be noted, did not vary widely from 1940, it is of interest that the average for all Class I roads in the United States was 12 greater than the average for 1940, and exceeded the five-year average by 9 ties to the mile. Among the noteworthy changes were the Delaware & Hudson, 116—169; the Delaware, Lackawanna & Western, 35—54; the Richmond, Fredericksburg & Potomac, 357—389; the Atlanta & West Point, 153—247; the Yazoo & Mississippi Valley, 194—227; the Chicago, Burlington & Quincy, 136—186; the Union Pacific, 160—187; the Kansas City Southern, 133—245; the Bessemer & Lake Erie, 148—121; the Pennsylvania-Reading Seashore Lines, 127—85; the Western Maryland, 179—141; the Virginian, 143—111; and the Florida East Coast, 199—156. In each of these comparisons, the figures for 1940 are given first.

Of equal interest are the comparisons by regions, these being as follows: the New England region, 92—100; the Great Lakes region, 104—121; the Central Eastern region, 99—121; the Pocahontas region, 77—84; the Southern region, 169—174; the Northwestern region, 153—156; the Central Western region, 122—135; and the Southwestern region, 136—150. For the United States as a whole the comparison is 128—140 and the five-year average is 131.

Further analysis of the tie-renewal statistics reveals that in 1941 treated ties were applied exclusively on 48 roads, compared with 47 in 1940, and that 9 roads used no treated ties, compared with 6 roads in the previous year. On 49 roads more than 80 per cent of the ties applied were treated; on 7 roads the percentage of treated ties ranged from 60 to 80; on 10 roads from 40 to 60 per cent of the ties were treated; on 6 roads the treated ties represented from 20 to 40 per cent of the total number applied; and on 5 others the treated ties ranged from negligible to 20 per cent.

More Ties Are Treated

Relatively, in 1941 there was a marked increase in the use of treated ties, these ties having constituted 87.5 per cent of all ties inserted in replacement during the year, compared with 84.5 per cent in 1940. While this represents an increase of 3 in the ratio of treated to untreated ties, it also represents an increase of 12 per cent in the number of treated ties applied, compared with 1940.

Numerically the increase was 4,438,701 treated ties, from 36,876,368 in 1940 to 41,315,069 in 1941. There was a decrease of 11 per cent in the number of untreated ties applied in 1941, compared with 1940. Numerically the decrease was from 6,257,905 untreated ties applied in 1940 to 5,561,746 in 1941, or 696,159 less in the latter year. Fewer second-hand, tunnel and substitute ties were applied in 1941 than in the previous year, the decrease being 134,583, from 482,361 in 1940 to 347,778 in 1941.

The tabulation contains a column showing the five-year average renewals for each road, which reveals that the roads having the lowest five-year averages per mile of maintained track were the Norfolk & Western, 37; the Lehigh Valley, 48; the Reading, 49; the Delaware, Lackawanna & Western, 60; the Long Island, 68; the New York, New Haven & Hartford, 69; the Central of New Jersey, 76; the Denver & Rio Grande Western, 78; the Pittsburgh & Lake Erie, 78; and the Chesapeake & Ohio, 80. The five-year average for the three Canadian roads ranged from 154 to 265.

Three measures of tie-renewal policies are shown in the last three columns of the accompanying table. One of these gives the average cost of wooden crossties; another gives the cost of tie renewals per mile of maintained track; and the final column gives the cost of wooden crossties per thousand equated gross-ton miles.

The data in the table cover a total of 335,659.2 miles of maintained tracks, compared with 336,839.8 miles in 1940, a decrease of 1180.6 miles.

Getting the Best Men

(*Continued from page 53*)

seen, as in fact it is, to be one of the road's important public and employee contacts—and one which, by the degree of its attentiveness, may have a considerable effect upon employee and public relations.

There is, of course, no reason why this modernized and centralized employment procedure, utilizing the best practices of scientific personnel management, might not be extended to other occupations and other localities. Such indeed is the company's intention but, as with all innovations, wisdom prompts evolution rather than revolution. A system worked out and perfected in a limited area by actual experience can be extended as conditions permit—with more hope of avoiding error and misunderstanding than if a comprehensive system-wide reform were attempted over-night. In a few days the services of the department will be extended to the employment of train service men, apprentices, elevator operators and several other classes of employees in the New York metropolitan area.

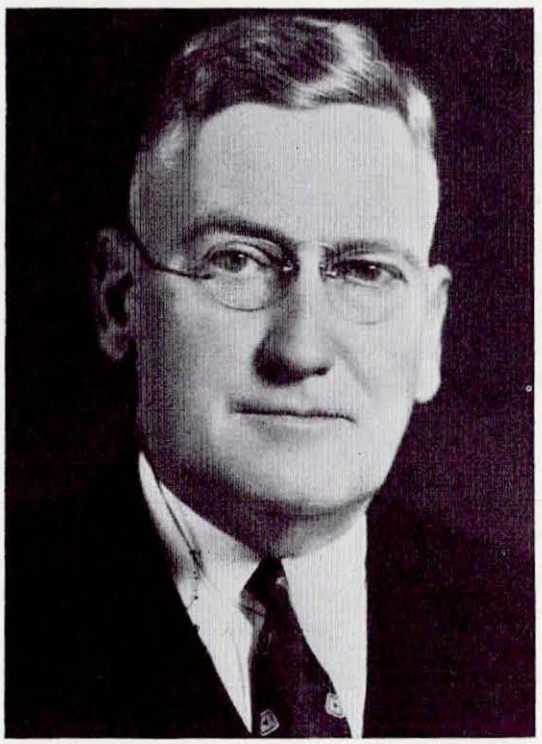
The employment office draws off salient details of information from applications and puts them on index cards—one alphabetically, by name, and another by occupation. In this manner quick access can be had to all qualified applicants for any position which can be named. Employees who find promotion slow in their own departments are encouraged to visit the employment office and provide it with the necessary information on their qualifications. Thus a typist, already employed by the railroad in one department, might find an opening in another department as a stenographer, at higher pay. Under the former, decentralized employment procedure the typist might have continued on at the old job—while a newcomer would get the better-paying position. The centralized system avoids this condition. It, therefore, serves to improve the morale (i.e., confidence in the management's justice and wisdom) of employees already in service, as well as to insure the highest available quality in newcomers to the payroll.

The management is satisfied that the new procedure has given it many employees of a distinctly higher average caliber than it could have hoped to have obtained otherwise—a service of real bearing on operating efficiency in a period when as many as 100 new employees monthly (in the clerical category) are being hired in the New York area alone.

Black Locomotives in Britain.—More than 20,000 British locomotives have shifted into battle dress for the duration of the war, abandoning the distinctive colors of the respective railways. The crimson of the London, Midland & Scottish, the green of the Southern and the Great Western, and the green and blue of the London & North Eastern, as well as emblems, gold leaf and other decorations have been discontinued for a uniform wartime black, with marked savings in labor and materials.

E. M. Durham Jr. Is Succeeded By John D. Farrington

Rock Island's chief executive officer resigns—Recent operating ratio lowest in road's history



E. M. Durham, Jr.

John D. Farrington

E. M. DURHAM, JR., who was made chief executive officer of the Chicago Rock Island & Pacific in November, 1935, two years after it had been placed in trusteeship, has resigned, and will be succeeded by John D. Farrington, chief operating officer, effective July 15.

Mr. Durham came to the Rock Island from the Missouri Pacific, of which he had been senior vice-president, and took over management of the property for the Rock Island trustees. A few months later he selected Mr. Farrington, then general manager of the Burlington lines in Texas, for chief operating officer.

The Rock Island was then suffering severely from the depression. Its gross earnings had declined from $148,000,000 in 1929 to $65,000,000 in 1932, and were only $67,000,000 in 1935. Its net operating income in 1929 of $25,000,000 had been replaced in 1935 by a deficit. Its gross earnings had increased in 1941 to $97,000,000, and its net operating income to almost $17,000,000; and in the first one-third of 1942 there was a further large increase in gross earnings and a further increase in net operating income from $4,741,000 to $7,700,000.

As the figures show, under Mr. Durham's management and Mr. Farrington's operation there has been great progress. Extensive improvements have been made in roadway and structures; equipment has been modernized; a fleet of 15 streamlined passenger trains, the Rockets, has been placed in service; and operating and transportation ratios were made the lowest in Rock Island history. The operating ratio of 71.3 in 1941 compared with 73.5 per cent in 1929; 90 per cent in 1935 and 77.3 per cent in 1940. The transportation ratio was reduced from 35 per cent in 1929 and 44 per cent in 1935 to 34.3 in 1941.

Mr. Durham came to the Rock Island with an engineering background that had been rounded out with years of experience in operation. He was born in Memphis, Tenn., on October 23, 1875, and was educated at Lehigh university, from which he graduated in 1898. In 1896-97 he was engaged with the United States War Department on hydrographic surveys on the Ouachita river, following which he served for several years as recorder for the Deep Waterways Commission of the State of New York. He entered railway service in 1899 as a transitman on the Chicago & North Western, leaving in the following year to go with the Southern as an assistant engineer. While with this railway he was promoted through the positions of resident engineer, principal assistant engineer, assistant chief engineer, and chief engineer. While connected with the Southern, he also served for two years as valuation engineer of the Atlanta, Birmingham & Atlantic (now the Atlanta, Birmingham & Coast) and as executive general agent of the Southern.

In 1920 Mr. Durham joined the United States Railroad Administration as manager of the department of

(Continued on page 60)

Wants Integrated Transportation Companies—Now

Conn tells study board of Transportation Association of America's plan to put over revamping before post-war repercussions set in

WASHINGTON, D. C.

PLANS being developed by the Transportation Association of America for revamping the nation's transportation set-up by the creation of an eleven, fourteen, or seventeen integrated system to render "all types of service, whether it be rail, highway, water or air," were high-lighted by the Association's executive vice-president, Donald D. Conn, in his testimony last week at the Washington, D. C., hearings in connection with the Board of Investigation and Research's study of public aids to carriers. Mr. Conn told Board Member C. E. Childe that he thinks private interests could be induced to take what Mr. Childe called "such revolutionary action"; and, moreover, he would do his integrating during the war period, for he believes that the effectuation of a transportation policy "must not await the uncertain repercussions of a post-war period of readjustment."

The hearings which opened on June 29 were concluded on July 3. Board Chairman Nelson Lee Smith announced that briefs would be received not later than August 25, while reply briefs will be due September 15. Also, he revealed the Board's intention to circulate "what may be in the nature of a preliminary or proposed report," which parties to the proceeding will have an opportunity to criticize. Meanwhile any additional exhibits which may be prepared by the Board's staff will be distributed. In addition to the presentation of Mr. Conn, the hearing sessions subsequent to those reported in the *Railway Age* of July 4, page 19, included the conclusion of the railroad presentation and statements by representatives of waterway, port, and municipal interests. Also, Dr. C. S. Morgan, who was director of the Federal Coordinator of Transportation's Section of Research, appeared briefly to obtain permission to file a statement containing comments on the record made in connection with the coordinator's "Public Aids to Transportation" report.

Must Maintain Private Enterprise in Transport

Leading up to his brief outline of the broad plan for transportation integration, Mr. Conn told of the Transportation Association's "conviction that if private enterprise is to remain as a basic doctrine of 'keystone' in our social and economic life after this war is over, this principle must be maintained in transportation." He considered the public aids study "of actual value" only insofar as the facts developed "influence government policies for the future." With respect to transportation, the witness suggested that "competition is evidently entering here into a new phase," bringing us "back where we started in 1887." Thus we must "begin all over again our consideration of the whole problem."

"'Integration," as defined by Mr. Conn, "is the working together of all forms of transport for a mutual advantage and a composite service to the public." While he agreed to submit further details when the Association files its brief, the witness made the following general statement of his idea:

Any such plan must avoid undue disturbance to labor and personnel employment. . . . And, it would appear that plans might be adopted which do not necessarily call for an immediate formula for the exchange of securities. Obviously, there can be no measure of real values of either stock or bonds until some years after this war is over. Therefore, it would be preferable to adopt a leisurely procedure in bringing about these integrated systems having the plan so flexible during a so-called test period that the corrective changes might be adopted if experience and research suggest them.

No Danger of Monopoly

There are approximately 67,000 communities in America now enjoying rail service. Of this number, almost exactly 10 per cent have competitive rail service. In our deliberations thus far we have ascertained that a 17-system transportation plan would continue to give rail competition to every community of over 8,000 population. Hence the public interest would be thoroughly satisfied from that viewpoint. . . .

Any plan, among other things, should provide for the absorption of the tax burden by the type of facility which actually enjoys the traffic; meaning that a fair share of the cost of local government plus the accommodations for the facility itself would be borne by the traffic which actually utilized the particular roadbed. For example, if a branch rail line is abandoned and truck service substituted by an integrated company, such service so far as local taxes are concerned should be required to pay its way and a like formula applied to the competing private carrier. By this method there would be no incentive or opportunity for any form of carrier to encourage subsidy, as each mode of transportation would be placed on an equal footing. If the government continued its policy of subsidy, the benefits thereof would be derived by the regulated integrated carrier to the same extent as the private carrier. It must be presumed, therefore, that the regulated carrier, rendering all types of service and being able to distribute and balance its traffic by the least costly method, could so reduce the cost of its total operations that rates could be adjusted to make private transportation unprofitable. . . . The prime object of the plan is to save and recover for regulated transportation all possible tonnage during normal or post-war conditions.

Modifications of federal law which would be necessary to effectuate the plan were listed by Mr. Conn as follows: Change the Interstate Commerce Act's declaration of policy to emphasize "inherent advantages" of integrated transportation systems, rather than stressing "inherent advantages" of each form, separately considered; modify provisions relating to pooling and mergers; repeal the Sherman anti-trust law as it may be construed to apply to regulated transportation; repeal the Panama Canal Act; modify "various provisions of existing law which encourage or result in unnecessary or destructive competition."

Byrl A. Whitney, counsel for the Brotherhood of Railroad Trainmen, was concerned about what he thought would be the railroad consolidation aspects of the plan

sketched by Mr. Conn. He asked the witness if he thought it would have been wise in the light of present-day conditions to have consummated consolidation plans proposed in the 'Thirties. Mr. Conn did think it would have been wise, for he believes that transportation systems should be integrated "so the consumer will enjoy the most economical service." In the same connection he told Mr. Childe that the Association's plan would contemplate a reserve transportation capacity for war traffic. He pointed out, however, that there is now no bottleneck so far as domestic transportation is concerned, adding that domestic agencies will be able to carry the load if given "a reasonable break" on priorities.

Later, Mr. Whitney protested that Mr. Conn was asking the Board to lay down a new declaration of transportation policy, whereas the B. of R. T. had assumed that the investigations were to be bottomed on the Transportation Act of 1940's declaration. It seemed to Mr. Whitney that, despite its emphasis on private enterprise, Mr. Conn's "design for living" was a "most complete plan for government ownership"; and he wondered if the "sky is the limit," leaving the B. of R. T. and other interests free to pour out to the Board "our design for living." Chairman Smith assured the Trainmen's attorney that the Board would be guided by the provisions of the statute in determining how far the testimony of any witness is pertinent to the investigation.

Breed, Older and Downs Defend Their Report

The railroad presentation was concluded with the testimony of C. B. Breed, professor of railway and highway transportation at Massachusetts Institute of Technology; Clifford Older, consulting engineer; and W. S. Downs, professor of railroad and highway engineering at West Virginia University. They are the authors of "Highway Costs," the study of highway costs and motor vehicle payments in the United States which was published by the Association of American Railroads in January, 1939. That study—the so-called Breed-Older-Downs report—was reviewed in the *Railway Age* of February 18, 1939, page 310. Generally it found that users of the highways failed by ten billion dollars to pay their proportionate share of highway costs during the 12-year period, 1921-1932. Also, that the average annual subsidy rate of about 800 million dollars did not diminish after 1932; and that the largest subsidy (amounting to almost $2,000 per vehicle per year) was going to the big (over five tons) for-hire trucks.

In his testimony last week, Professor Downs took issue with the use in the Board's tentative exhibits of "annual expenditures" as a basis for the allocation of highway costs. He urged adoption of the "annual cost" basis, which, he explained, embraces such things as annual amortization, interest, and taxes, instead of just the amount of money spent on highways in a given year. The witness also noted that the Board's staff did not include any cost figure for unsurfaced roads, of which there are some 2,400,000 miles comprising 60 per cent of the road system. The cost of such roads, Professor Downs said, is "not less than $1,500 a mile."

Professor Breed, among other things, discussed the motor vehicle use of rural roads, saying that such use was so predominant as to make other uses relatively insignificant. He conceded that highways result in "consequential benefits" to land, but nevertheless contended that such benefits "grow out of motor vehicle use." Also, "consequential benefits" to land are incidents of "any transportation service," being "more conspicuous as to railroads." Thus while Professor Breed would not consider "consequential benefits" in fixing highway costs, he would insist that any study which did consider them should also consider "consequential benefits" of railroads.

Trucks Want Credit for "Land-Grant" Rates

Upon cross examination by J. Ninian Beall, counsel for American Trucking Associations, Inc., Professor Breed said that the Breed-Older-Downs report considered "prudent investment" in connection with its highway studies only to the extent of taking in work relief expenditures at 75 per cent. Nor did the study eliminate expenditures on highways from which trucks are barred. The witness thought that common carriers should pay something toward the cost of such roads, because they get business off them. Mr. Beall also brought out the fact that the report did not consider "benefits" to the government in the way of reduced rates on truck routes paralleling railroad land-grant mileage. Defending that finding of the report which held that the general taxpayers ought to pay about the same per capita for highways as they were paying before the coming of the motor vehicle, Professor Breed told Dr. Burton N. Behling, director of the public aids study, that the evidence would not support a proposition to the effect that the trend of highway expenditures was upward before the motor vehicle appeared.

J. H. Hays, counsel for the Western Association of Railway Executives, who was associated with A. A. R. General Counsel J. Carter Fort on the railroad presentation, conducted the direct examination of Mr. Older. Mr. Hays brought out the fact that his witness developed the so-called Older formula which has been the basis of highway pavement designs in Illinois since 1920, and which is "used widely in other states." Mr. Older told of his studies which have indicated that required pavement thicknesses are closely related to the square root of maximum wheel loads. He conceded, as General Manager John V. Lawrence of A. T. A. had previously asserted, that solid-tired vehicles were used in his pavement tests, insisting, however, that this would make no difference in the relative assignment of pavement wear and tear to vehicles of different weights. The remainder of Mr. Older's testimony was in explanation of an exhibit which he submitted to show how the Breed-Older-Downs report had assigned to various types of motor vehicles the $1,495,218,000 in annual costs found chargeable to motor vehicles for the year 1932. The total was made up of $946,115,000 in capital costs and $549,103,000 in maintenance costs.

Port of New York Authority

First of what the Board listed as "waterway organizations" was the Port of New York Authority, although its witness—Walter P. Hedden, chief, Bureau of Commerce—said at the outset that the Authority has "no particular interest in any one type of transportation as against another." Mr. Hedden did, however, have a "few observations on the calculation of public aids to water carriers, insofar as they relate to seacoast harbors, particularly the port of New York." In that connection he went on to comment on his exhibit which was designed to make the following points: (a) That the movement of freight by railroad car ferry in New York harbor is a significant portion of the total commerce on the waterways and, by any logical system of accounting, should be allotted a portion of the costs of improvement and maintenance; (b) that the cost of dredging the main entrance channels of New York harbor should be allocated in

large part to super-liners; (c) that a large part of expenditures for channels in New York harbor was and is for purposes of providing access to Army and Navy bases and facilities directly used for national defense rather than normal commerce; (d) that certain projects upon which monies have been expended heretofore in creating ship channels are now obsolete.

Responding to questions by Parker McCollester, counsel for the American Hawaiian Steamship Company and Luckenbach Steamship Company, Inc., Mr. Hedden agreed that there were railroad marine operations at ports other than New York—such as San Francisco, Calif., New Orleans, La., and Newport News, Va. Mr. McCollester's own witness, D. S. Morrison, vice-president of American Hawaiian, took a position like that of Mr. Hedden with respect to the allocation of waterway costs. He also complained about the competition which he said American Hawaiian and Luckenbach encounter from the subsidized merchant marine, suggesting that the "demoralization" of the last post-war period be studied in order that a repetition may be avoided when a greatly augmented merchant fleet comes back from its present war service.

Lake Carriers' Association

L. C. Sabin, vice-president of the Lake Carriers' Association, made a brief statement giving information about the Great Lakes waterway system, which he called "unique" in that only about 10 per cent of its 1,000-mile route has required excavation to provide a depth of 23 to 25 feet. He said that during the past 100 years the federal government had spent only $72,000,000 on lake channel and harbor improvements, and that the system's annual maintenance cost had averaged less than $800,000 during the past decade. The higher annual-cost figure shown in the Board's calculations, he explained, was accounted for by the inclusion of interest and depreciation. "The Great Lakes system is quite able to carry any burden of costs that can be reasonably assumed," Mr. Sabin assured the Board. He was followed by Major J. H. Ross, chairman of the New York State Waterways Association's Legislative Committee, who asked the Board to consider the flood-control and hydro-electric-power phases of the New York State Barge Canal when it gets around to compiling figures for that waterway.

Stuart B. Bradley, counsel for John I. Hay Company and "certain other carriers operating on the Illinois and other waterways," also asked cost allocations for waterways be so made that navigation would not be charged for flood control, power works, etc. Also, he would confine allocations to navigation to "presently effective aids," eliminating imprudent expenditures and outlays on projects now obsolete; nor would he include any allowance for interest on construction costs. On the traffic side, Mr. Bradley thinks "potential" traffic should be considered in determining unit costs.

Mississippi Valley Waterway Groups

Theodore Brent appeared for the Mississippi River Carriers Association, the Mississippi Valley Association, the Ohio Valley Improvement Association, the Upper Mississippi Waterway Association, and the Upper Mississippi & St. Croix River Improvement Association. All of these organizations, Mr. Brent said, are opposed to any form of tolls on the waterways, and they reserve the right to oppose in Congress any such levy which might be proposed as a result of the Board's studies. Also, the witness opposed the use of any interest item in waterway-cost calculations, and he objected to the inclusion of work-relief expenditures as public aids to waterways. "Any attempt to make waterways pay their way," Mr. Brent said, "would disrupt the whole rate situation in the United States; it would wipe waterway traffic off the map."

In measuring waterway costs, the witness contended that some yardstick other than "the mere tonnage of present users" must be found—otherwise "you'll always have capacity and no traffic." When Mr. Brent emphasized what he conceived to be the national-defense value of the waterways, Mr. Fort read from the War Department's Technical Manual of April, 1941, a statement asserting that the railroads "are the backbone of national defense; all other forms of transportation are but extensions and auxiliary services." The A. A. R. general counsel followed through to quote from the record of an Interstate Commerce Commission proceeding where a War Department representative had made a statement to the effect that no other form of transportation should be permitted to impair the railroad system in any way. Mr. Brent conceded that the railroads are of value to national defense, too.

Julian M. King, chairman and tariff publishing agent of the Atlantic-Gulf-Coastwise Steamship Freight Bureau, stressed the difficulties the Board would encounter in any undertaking to allocate costs to waterway users. Frederick N. MacMillin, executive secretary of the League of Wisconsin Municipalities, and R. W. Gamble, superintendent of Milwaukee's Board of Street Construction & Repairs, made similar presentations, complaining that the present basis of financing city streets imposes an undue burden on the general taxpayer.

E. M. Durham Resigns

(Continued from page 57)

way and structures, being appointed director of the division of liquidation claims in 1923. He returned to railway service in 1924 as assistant to the president of the Missouri Pacific, and was made vice-president in 1926 and senior vice-president in the following year, which position he held until December, 1935, when he was made chief executive officer of the Rock Island.

Mr. Farrington came to the Rock Island with twenty-five years of operating experience on the Burlington. He was born on January 27, 1891, at St. Paul, Minn., and, after a high school education, entered railway service in the engineering department of the Great Northern in June, 1909. He went with the Burlington in 1910 as a timekeeper, and then served successively as assistant foreman, foreman and roadmaster in the track department. After being transferred to the operating department, he served as assistant trainmaster, trainmaster and assistant superintendent. From 1917 to 1919, he was in the United States Army as lieutenant, captain and major. Following the war he returned to railroad service as superintendent of the Quincy, Omaha & Kansas City (part of the Burlington), and was appointed superintendent of the St. Joseph division of the Burlington on December 1, 1922. The next year he was transferred to the Aurora division; on January 1, 1930, he was advanced to general superintendent of the Missouri district, and in May, 1931, he was made general superintendent of both the Missouri and Iowa districts. In October, 1931, he was promoted to general manager of the Ft. Worth & Denver City and the Wichita Valley with headquarters at Ft. Worth, Tex., which position he held until on May 15, 1936, he was appointed chief operating officer of the Rock Island.

Daniel Willard Dies in 82nd Year

The dean of railway executives passes on after a distinguished career of 63 years' railroading

Daniel Willard

DEATH at the age of 81, following a short illness resulting from heart weakness, on July 6, closed the illustrious career of Daniel Willard. Since July 1, 1941, he had held the office of chairman of the board of the Baltimore & Ohio, but it was during the preceding period of more than 31 years in which he served as president of that road that he won national renown for achievements in industrial statesmanship which made him the most widely known railroad man in America.

The steps by which this exceptional reputation was attained have been detailed in many articles in these pages, most recently in the issue of May 3, 1941, and newspapers and other publications of general circulation have given much space to accounts of Mr. Willard's work for his railroad, for the cause of free private enterprise, and for the nation. He was a leader in recognizing and accepting social and economic changes and in adapting management policies to them. This was particularly evident in his policy of co-operation with labor organizations, wherever their attitude made it possible.

Some of the organizations expressed appreciation of Mr. Willard's leadership on various occasions—a tribute in the bestowal of which they are not lavish. To his kindly consideration, they owed much. The B. & O. settled the 1922 shop strike under generous terms which brought most of its former employees back to their jobs, and thereafter the well-known "union-management co-operative plan" was introduced, not only with Mr. Willard's approval but with his active support.

Again in 1932—when the effects of the general depression were threatening the stability of every railroad company and testing the very powers of survival of the American system of enterprise—Daniel Willard took the lead in arriving at an understanding between managements and labor organizations that resulted in acceptance by the unions of a 10 per cent wage deduction.

In 1938, when it was necessary that the B. & O.'s finances be reconstituted, Mr. Willard was supported, not only by the labor organizations but by many political leaders as well in the adoption of the Chandler Act, which made it possible for the B. & O. and other railroads to reorient their financial structures without the ordeal of formal reorganization.

Mr. Willard was born January 28, 1861, in North Hartland, Vt., the son of Daniel Spaulding and Mary Anna Daniels Willard. He lived with his parents on a farm and attended the district school until he was sixteen. He then taught in the district school in Hartland for two years, meanwhile completing the high school course at nearby Windsor. In the fall of 1878 he entered the Massachusetts Agricultural College at Amherst, but was forced by eye trouble to withdraw after a few months.

On April 8, 1879, he began his 63 years as a railroad man by getting a job as a track laborer on the Vermont Central in his native town. A few months later he became a fireman on the Connecticut & Passumpsic Rivers (now part of the B. & M.), where he soon became a locomotive engineer. In 1883 he left New England, finding employment as an engineer on the Lake Shore & Michigan Southern (now part of the N. Y. C.), but he remained there only a few months.

For 14 years from July, 1884, he was employed by the Soo Line. Beginning as brakeman on a construction train, he was at various times conductor, engineer, foreman in the mechanical department, trainmaster, assistant superintendent, and superintendent. He resigned from this last position in 1899 to go with the B. & O., where he became assistant general manager under F. D. Underwood, who had gone to that road as general manager from a similar position with the Soo Line. Two years later Mr. Underwood resigned to become president of the Erie, and his position as general manager of the B. & O. was offered to Mr. Willard, but he decided to stay with his superior officer and became assistant to the president of the Erie. In a short time he was appointed vice-president and general manager of that road, but in 1904 he left that position to become vice-president in charge of operation and maintenance of the Burlington.

Later he also served for a short time as vice-president of the Colorado & Southern and president of the Colorado Midland.

In 1910 he resigned from the Burlington and associated companies to become president of the Baltimore & Ohio. Soon afterward he was elected president of the American Railway Association, a position he held two years. The qualities that led to his exceptional success as a representative of the railroads in negotiating with the labor unions and with the government evidently were already appreciated, because he was chosen to act for the eastern railroads in 1912 in settling a controversy with the locomotive engineers' organization and in 1913 to present their case for rate increases to the I. C. C.

Before and after the United States became involved in World War I Mr. Willard held positions of responsibility with distinction. He was chairman throughout the war of the Advisory Commission of the Council of National Defense and also chairman of the subcommittee on Transportation and Communication, in which position he brought about the organization of the Railroad War Board, which served to co-ordinate the war effort of the railroads until the period of federal operation began. In October, 1918, he was commissioned Colonel of Engineers, U. S. Army, and ordered to France to serve in the Transportation Section of the A. E. F., but the Armistice was signed before he sailed.

In his later years Daniel Willard wore gracefully many laurels honestly won in service to industry and to the public. For 28 years he was a trustee of the Johns Hopkins University in Baltimore, and he held honorary degrees from 13 colleges and universities, but it is doubtful if any of these academic honors held the significance of the degree of "Doctor of Humanity" conferred on him by 1600 representatives of B. & O. employees at a celebration of his twentieth anniversary as B. & O. president.

Among his many corporate connections Mr. Willard was chairman of the board of the Reading, and for many years a member of the executive committee of the Association of American Railroads and a director of the American Telephone & Telegraph Co., and the Mutual Life Insurance Co.

A Communication

CHICAGO

TO THE EDITOR:

Railroads are the nation's arteries of supply. Armament plants, with their top priorities, must shut down if our railroads cease to function, or reduce their hours of work if railroad service is crippled ever so slightly. Freight-cars are largely steel. It is the principal item that wears. Steel parts and assemblies must be replaced constantly. But timely procurement of this steel requires the highest established priority. Nothing else is effective, short of individual directives, and these offer no solution. Allocations cannot offer any practical solution until experienced groups shall have been selected and organized equitably to apportion broad allocations. No single centralized group can intelligently feed materials to the railroads by administering to each separate need.

Until recently the railroads had only A-3 ratings with which to procure steel. Their suppliers were no better off when extending these A-3 ratings. Increasingly, the repair parts needed for cars have been taken out of the accumulated stocks of the railroads and the parts-manufacturers. The priorities available have been useless for replacing these dwindling stocks. Inventories of parts and materials are rapidly being depleted.

If shelves become bare, only in spots, freight cars will begin to slide from the available list to the unavailable, bad-order list. Then, even though Quadruple-A priorities be issued, deterioration of cars and railroad service will not be arrested at once. It required years to build up a reliable flow of repair materials and safety reservoirs of stocks. These protections cannot be reconstructed in a few weeks, once broken down.

This hazardous repair situation was not corrected by new Order P-88, issued last March, or by the amendment three months later. The A-1-c and A-1-j ratings now dispensed to railroads are just as ineffective when steel must be procured for repairs. Moreover, the railroads fabricate and manufacture only the smaller portion of their iron and steel parts for cars. The greater portion they purchase from manufacturing suppliers. These manufacturers are the ones who must procure the steel. The railroads can enjoy no better repair service than is permitted by ratings accorded their parts-manufacturers.

These manufacturers are now being brought under the Production Requirements Plan. This wipes out their right to extend any railroad priority, but that is only a theoretical loss in connection with steel procurement. In bringing practically all of them under the Production Requirements Plan, the War Production Board has an opportunity to correct a situation which is both incongruous and dangerous. Effective ratings must be given to steel and steel parts. There should be reasonable safeguards to prevent abuse, but these safeguards should not be accomplished by emasculation of the ratings. That is not temperance; it is prohibition. Maintenance is a 24-hour, hungry service. Its essential food is steel; steel which can be bought only with *effective* priorities. The railroads cannot be fed with permissions to buy steel and instructions to buy it with priority-bank-notes that are no good for the purpose. Nor can the American railroad system be kept alive by holding individual clinics on each pang which evidences its starvation.

We must now think realistically in terms of steel punctually delivered, fabricated and incorporated into a piece of rolling equipment which will carry war supplies and civilian sustenance. We must think in terms of freight cars wearing out, falling to pieces, causing wrecks and car shortages, congesting tracks and terminals; in terms of interrupting factory production and possibly losing a war. Such consquences are easier to bring about than some of the things that have happened in the last several months. Most of them are certainties, if steel is embargoed long enough or pargeled out thin enough.

To be sure, WPB has announced a plan to allocate definite quantities of materials to the vital end-uses. This promises to give to our essential services the nourishment they need to keep them alive and functioning in a healthy manner. With adequate implementation, this action would squarely meet the problem here presented, but no one knows how much time will be required for its consummation. The result of filing a PRP application still continues to be a priority rating, and this will probably be the key to procurement of materials for some time.

Even as this is written, the ratings recently accorded railroads and their manufacturers are becoming still weaker. A new group of top priorities has been established, primarily for the armed services. These new ratings have been made superior to all those in the previous series, including AA. Today it is doubtful whether A-1-a ratings can procure steel within the three-months' period, which has been the limit of the priority horizon. So long as priorities are allowed to exercise influence on steel supply, a healthy physical condition on the railroads can only be insured by a potent rating for steel, whatever it may happen to be labeled at the moment.

Joseph B. Eastman, supreme transportation authority in this country, at Cleveland, Ohio, on June 19, 1942, had this to say. "I was considerably worried when I heard that there was a possibility that the War Production Board might in the latter part of this year shut down the supply of maintenance materials in whole or in part. I hope you will watch that matter very closely, and if you see any danger in sight, let us know in Washington at once. I can't conceive of anything that is more critical and more important than keeping this equipment that the railroads have in topnotch condition. . . ."

Transportation is a complex service and, in many spots, a fragile service. Even those familiar with it sometimes forget its vulnerability because they have seen it function so smoothly for years, when undergoing no strain. *Under strain*, it gives very little warning that it is about to fail. To overrate its ability to perform miracles, to forget its delicate nature and importance even for a short period, could result in a major tragedy of war management.

R. D. BARTLETT,
Vice-president-Manufacture, Chicago Railway Equipment Company.

Railroads-in-War News

WPB Is Shuffled Around Once More

Donald Nelson gets two vice-chairmen—William Batt and J. S. Knowlson

A realignment of the War Production Board, designed "to tie the economic and military strategies more closely together and to make more effective the Board's determinations of policies and programs governing the flow of materials," was announced on July 8 by Chairman Donald M. Nelson. According to the announcement, the realignment does these things:

Clears the decks to make controlling and expediting the flow of materials the Board's central effort.

Brings the Board into closer touch with military and international production requirements, and increases the Board's activities in overall war production strategy.

Strengthens the topside policy, programming and progress-reporting organization of WPB.

Concentrates the operating portions of WPB under one head, and puts increased emphasis on the work of industry and commodity branches.

Lightens the administrative load upon the chairman so that he can devote his time to essential policy decisions and to the increasingly important relations of WPB with the other war agencies.

Two vice chairmen are provided for in the new set-up. One will be William L. Batt, who will serve as Mr. Nelson's general assistant and deputy, helping in the determination of policies and in the direction of operations, and devoting his attention to the whole work of WPB. Mr. Batt is relinquishing his chairmanship of the Requirements Committee, although he will continue as a member of that committee. The other vice chairman will be James S. Knowlson, formerly Director of Industry Operations. Mr. Knowlson will have responsibility for program determinations; he will serve as Mr. Nelson's deputy on the Combined Production and Resources Board, and will be chairman of the Requirements Committee. All of the operational work—including the industry and material branches, appropriate bureaus, and the field organization—is brought together under a Director General of Operations, Amory Houghton, formerly deputy chief of the Bureau of Industry Branches.

A third phase of the work—checking up to see that programs are properly carried out—is entrusted to a deputy chairman on program progress. This officer will be WPB's "inspector general." Leon Henderson remains as Director of Civilian Supply. Working with the Vice Chairman on Program Determination will be the Procurement Policy Division, formerly the Division of Purchases, under Holder Hudgins, and a new Construction Program Division, "which will be responsible for considering and programming all plans for capital expansion, whether military or otherwise, and making sure that facilities expansion projects are in accord with the maximum overall program." The Labor Production Division continues under Wendell Lund; its Labor Advisory Committee becomes the Labor Policy Committee.

Working with the Director General of Operations will be the following units, other than the industry and commodity branches:

The Conservation Division.

A new Production Engineering Division, which will help in the development and wide use of new production methods and techniques in the war program.

A new Facilities Utilization Division, which will be responsible for seeing to it that proper use is made of available productive facilities.

The Inventory Control Division.

The Division of Industry Advisory Committees.

The Priorities Administration Division.

Railroads Saving Critical and Scarce Materials

Through the use of substitutes or alterations in specifications, the railroads "are aiding in the war effort by saving thousands of tons of critical and scarce materials," according to the Association of American Railroads.

Normally, they use nearly 50,000 tons of copper annually. By reducing the amount used in locomotives, air brakes, signal apparatus, telephone and telegraph communication and in journal boxes, the railroads have been able to bring about a saving of about 10 per cent in copper. Rail angle bars have now been standardized at 24 in. These angle bars formerly were from 24 to 39 in. in length. Such a saving amounts to approximately 12,000 tons of steel a year.

A special joint committee of the Mechanical and Purchases and Stores Divisions of the Association has just completed a study as to possible savings in the use of rubber by the railroads of this country. This committee found that, without interfering with safety or efficiency, fibre, plastics, felt, reclaimed rubber and various other materials can be used in making approximately 170 different parts and appliances which now use rubber. In the manufacture of nearly 70 other items made either entirely or partially of rubber, the committee found that the amount of rubber could be reduced.

Railroads also use considerable tin. Under revised specifications which have been promulgated, a reduction in the amount is being made. Babbit metals, which, too, are widely used by the railroads, have been developed so as to contain less tin.

Railroads use approximately 75,000 different articles. "Any saving which they make in the use of critical and scarce materials is therefore substantial," the A. A. R. pointed out.

New Order Issued On Export Traffic

State Dept., Economic Warriors, Shipping Board and ODT collaborate on rules

Director Eastman of the Office of Defense Transportation on July 7 issued General Order No. 16, governing the movement of goods, under ODT permits, into United States ports for off-shore shipment. The order, together with instructions to shippers, was worked out in cooperation with the Department of State, the Board of Economic Warfare, and the War Shipping Administration; it becomes effective in part on July 10 and in full on August 1, and supersedes Instruction ODT No. 1 which became effective on June 1, for the control of export traffic

The new order carries out in general the procedure originally set up in Instruction ODT No. 1 for the handling of all government freight into the ports, but simplifies the procedure for handling commercial cargo destined to American republics and other areas. The directors of ODT's Divisions of Railway Transport and Traffic Movement jointly may suspend the operation of the order in respect of any freight or traffic "when the needs or exigencies of the war or of the military or naval forces will be better served by any such suspension."

Effective immediately, exporters on shipments of 2,240 lbs. or more, intended for Latin America, will be required to file with BEW's Office of Export Control, five copies of a prescribed application for commercial freight space in vessels departing on or after August 15. Applications will be considered only when goods are ready for shipment from the interior, or when goods will be ready to move from factory or warehouse within three weeks after the application has been submitted to the Board of Economic Warfare.

Applications for shipping space, if and when approved by BEW, will be delivered to WSA which, when space is available, will issue an ODT unit permit as evidence of the availability of space. Bookings for a specific ship must be confirmed subsequently by the ship operator. Bookings for cargo to destinations other than Latin America, will continue to be made by ship operators on direct application by shippers, but subject to final approval by WSA's Office of Supervision of Cargo Clearance in New York, and in such other ports where branches may be set up. This office will draw up approved cargo lists, and ODT permits will be issued in accordance with these lists.

Service Order No. 79 Issued July 2: Vacated July 8

The Interstate Commerce Commission on July 8 issued Service Order No. 79-A, vacating and setting aside Service Order No. 79 which had been issued July 2 to place an embargo "upon cars loaded with coal consigned to South Amboy, N. J., moving on the Virginian to Sewalls Point, Va." The embargo was to remain in effect until the accumulation of such cars at Sewalls Point or at yards serving it had been reduced to 150 cars.

Horace M. Wigney Named Chief of Refrigerator Section

Horace M. Wigney, assistant vice-president of the Union Asbestos & Rubber Co., Chicago, has been named chief of the Refrigerator Car Section of the Division of Railway Transport of the Office of Defense Transportation. While in the employ of Union Asbestos, he was in charge of research and development of refrigerator car specialties, and previously held executive positions with the Pacific Fruit Express, the Merchants Dispatch Transportation Corporation and the Dairy Shippers Dispatch.

New ODT Storage Control Section

Director Eastman of the Office of Defense Transportation, has established a Storage Control Section in ODT's Division of Storage. The section "will maintain a continuous check on storage facilities at ocean ports to make sure that adequate space is available for war materials consigned to overseas destinations."

Robert C. King has been appointed chief of the section. Mr. King came to ODT in March from the United States Tariff Commission. He was with the office of the Federal Coordinator of Transportation from 1933 to 1936 where he served as research assistant in the Transportation Service Section and as assistant chief of the Section of Property and Equipment.

Price Schedule for Surplus Car Materials and Parts

Acting to "facilitate the freight car building program laid down by the War Production Board," the Office of Price Administration last week established a schedule of maximum prices for surplus freight car materials and parts, which cuts across all previous schedules affecting these materials. The schedule is embodied in Maximum Price Regulation No. 174, issued by OPA Administrator Henderson on July 2 with a December 31 expiration date.

According to the OPA announcement, it will "greatly expedite the transfer of surplus freight car parts between car builders and railroads"; because there are involved "a great variety of materials," which are ordinarily priced under various specific regulations. The announcement emphasized that "only *surplus* car materials sold by one car builder to another car builder or by a car builder to a railroad, whether of not the railroad is a car builder," come under the provisions of the regulation.

"In accordance with the industry's desire that these transfers be carried out, in a spirit of cooperation with the war program, at cost, the maximum prices established permit no profit to the selling car builder," Mr. Henderson said. "The maximum prices are determined, in most instances, by adding to the seller's cost of the material, inbound freight charges and sales taxes, if any, and direct labor costs for any fabrication work. Furthermore, in order to equalize the burden of transferring materials upon which the manufacturer's profit has already been obtained, selling car builders have been required to absorb any handling, storage or similar expenses, as well as overhead charges on labor used in fabricating any material. By the same token, purchasing car builders and purchasing railroads will be obliged to absorb the increased cost of an additional freight shipment which they would not have incurred were they to purchase such materials from their regular suppliers."

Further Delay for OPA Transport Price Control

The effective date of the Office of Price Administration's general maximum price regulation as it applies to non-common-carrier transportation services and services performed in connection with transportation has been further postponed from July 1 until August 1. The extension, contained in Amendment No. 3 to Supplemental Regulation No. 11, was granted to meet requests by the Office of Defense Transportation and the War Department.

ODT requested the postponement with respect to barge movements of coal along the east coast, because the March levels on which the ceilings would be fixed do not reflect increases in insurance costs and wage payments which have attended the intensified submarine activity. The War Department asked more time to permit adjustment of stevedoring charges without interruption in the flow of war suupplies.

East Coast Oil Movement is Down

Rail movement of oil to the east coast during the week ended June 27 was at a rate of 720,720 barrels daily, according to an announcement by Petroleum Coordinator Harold L. Ickes. This represents a decrease of 11,040 barrels daily from the volume moved during the week ended June 20, when car loadings averaged 731,760 barrels per day.

In handling this movement the 31 oil companies loaded 24,024 cars. Including cars that were on the way back west for reloading, it is estimated that the east coast service employed 56,000 cars, taken largely from other sections of the country.

Meanwhile, Mr. Ickes is pushing his Pipe-line plans, in which connection he is now undertaking to obtain War Production Board clearance for a "comprehensive seven-project pipe-line relocation program." The program is designed "to increase the flow of crude oil and petroleum products to the Atlantic Seaboard by more than 200,000 barrels a day." With respect to plans previously approved by Mr. Ickes for the construction of an eight-inch pipe line across northern Florida, using second-hand pipe excavated in Texas, Secretary of Commerce Jones announced on July 7 that the Defense Plant Corporation had agreed to finance the undertaking. DPC will buy the 195-mile line from American Liberty Pipe Line Company, now operating between Longview, Tex., and Houston, and have the pipe and appurtenances moved to Florida and relaid between Carrabelle and Jacksonville. The project is expected to involve a total outlay of $2,900,000; and the relaid line will have a daily capacity of 35,000 barrels.

ODT Orders Large Colliers to Stick to Long Hauls

Director Eastman of the Office of Defense Transportation on July 7 issued General Order No. 15 prohibiting coastwise colliers from transporting coal from the Hampton Roads area, Va., to any New England port west of Stonington, Conn., except as authorized by special or general permit.

The order, which becomes effective July 22, is designed to concentrate all self-propelled coal ships, of 1,000 tons registry or over, on the long-haul coal movements from Hampton Roads to the farther New England ports which cannot under present conditions be efficiently served by barge lines. The effect, said the ODT announcement, "is expected to be a greater utilization of barges for the shorter-haul coal movement along the inland waterway to New York and nearby Connecticut."

The War Department and State Size and Weight Limitations

Motor carriers engaged in transporting war traffic have been asked by the War Department to report to the Army's Highway Transportation Division any difficulties with state size and weight restrictions which cannot be adjusted through state highway authorities or governors. The request came in a July 2 notice which told of a "partial check-up" indicating that the response to the recent liberalization program of the Council of State Governments "has been something less than the reported full acceptance of the proposed standards."

Thus motor carriers are cautioned to obtain exact information before movements contrary to certain specified reservations are attempted in Kentucky, Louisiana, Mississippi, Missouri, Nebraska, New Jersey, Oklahoma, Texas, and West Virginia.

Eight Appointments to ODT's Rail Division Field Staff

Eight appointments to the field staff of the Office of Defense Transportation's Division of Railway Transport were announced by ODT Director Eastman on July 8.

Stephen E. Shoup, who has been in the War Production Board's priorities field service at Kansas City, Mo., was named assistant to Director V. V. Boatner of the Division. Edward C. Cavey, until recently superintendent of the Baltimore & Ohio's St. Louis division, was appointed deputy associate director for the Southern region with headquarters at Washington, D. C. Charles F. Caley, transportation analyst for the New York, New Haven & Hartford, becomes deputy associate director with assignment to the Division's Rail-

Truck Section at New York. George R. Littell, terminal agent for the B. & O. at Cleveland, Ohio, becomes assistant director with the Rail-Truck Section at that point; while Nelson E. Kidder, transportation inspector for the Boston & Maine, has been appointed to a like position with headquarters at Boston, Mass.

D. J. McGarity, former New England district manager for the International Cellucotton Company, has been named supervisor of port conditions at Portland, Me.; while a like position at Seattle, Wash., has gone to C. R. Elander, former commercial agent for the Acme Fast Freight Company. J. V. Nardini, former general superintendent of the California State Belt, has been appointed supervisor of rail terminals at San Francisco.

Coal Shipments into New England Are Off

All-rail coal shipments into New England during the week ended June 27 totaled 6,825 cars as compared with 7,022 cars during the previous week, a decline averaging 28 cars per day, according to Solid Fuels Coordinator Ickes. Total tonnage for the June 27 week was estimated at 375,375 net tons as compared with 386,210 tons in the preceding week.

Mr. Ickes gave the foregoing figures in a July 6 statement which emphasized that "ordering of coal for protective storage should be continued"; and called upon consumers to accept delivery whenever coal can be supplied. "Additional facilities," he said, "still exist for all-rail shipments and anthracite production, which was severely curtailed by a flood, in May, is steadily regaining lost ground." Total all-rail coal shipments into New England from January 1 to June 27 aggregated 163,819 cars of all kinds of coal, or 52,701 more than were moved in the comparable 1941 period.

ODT Says Its Tank Car Order Is Working Well

"Thousands of additional tank cars have been made available for long-haul service" as a result of General Order ODT No. 7 restricting the use of such equipment on hauls of less than 100 miles, said a July 7 statement from the Office of Defense Transportation.

"During May," the statement said, "a total of 125,000,000 gallons of petroleum and petroleum products was moved by tank truck to destinations served in the preceding month by tank car. This represents approximately 14,200 car loads. On the basis of a monthly average of three and a half hauls of 100 miles or less for tank cars, this volume of traffic would have required the use of 4,000 tank cars."

The cars released have been "put to hauling petroleum and petroleum products into the Atlantic Seaboard area and other essential services," according to ODT. It added, however, that "this does not mean that the threat of a fuel oil shortage this winter is removed or that the current shortage of crude oil at eastern refineries is likely to end immediately."

The announcement also revealed that ODT's Section of Tank Car Service has prepared a revised application blank for use of shippers applying for special permits to use tank cars on hauls less than 100 miles. The revised blank requires information not previously called for, including advice as to what efforts were made, before applying for the permit, to divert short-haul traffic to tank trucks "or other forms of transportation."

"Frustrated" Freight at N. Y.

Acting upon petition of railroads serving the New York-New Jersey port area, the Interstate Commerce Commission, Division 2, has prescribed a basis of charges for export freight in storage on railroad premises when it is moved back to interior points in compliance with orders of the Office of Defense Transportation. As noted in the *Railway Age* of July 4, page 26, Director Eastman of ODT has authorized Director Boatner of the Division of Railway Transport to require such movements where necessary to relieve ports of cargoes which were destined for foreign ports now occupied by enemy forces.

The I. C. C. order authorizes the New York roads to adjust the charges by:

(1) Applying the export freight rates to the port at which the freight is located provided the freight is eventually exported through the original port. If the freight is domesticated or forwarded through some other port, freight charges from point of origin to the port at which the freight was held will be readjusted to basis of the domestic rates.

(2) Applying the export storage rules and charges currently applicable during the period of detention at the port to freight eventually exported through the original port of exportation.

(3) Applying at the original port after the expiration of the export free time storage charges at a rate of 3 cents per 100 pounds for the first 10 days or fraction thereof and 1 cent per 100 pounds for each succeeding 10 days or fraction thereof if the freight is eventually exported through another port or becomes domesticated; provided, however, that in no instance may the storage charges authorized herein exceed those which would accrue under the domestic rules and charges.

As to the adjustment authorized in (1) and (2) above, the order provides that if the freight is domesticated or satisfactory proof of exportation through the original port is not furnished within 12 months from the date of arrival of the freight at the interior storage point, the rail transportation charges will be adjusted to the domestic basis and the storage charges at the port will be adjusted to the basis authorized in (3) above and collection made accordingly.

Truck Clearing House Plan Is Approved by ODT

General Order No. 13 authorizing establishment by the motor carrier industry of "joint information offices" throughout the country was issued on July 2 by the Office of Defense Transportation. The plan, as the ODT announcement put it, "is designed to make it easier for common, contract, and private carriers to comply with ODT orders for the conservation of trucks and tires."

The function of the information offices will be to assist in working out arrangements for compliance by obtaining from and relaying to carriers information with respect to equipment available and freight awaiting shipment in their respective areas. Each office will be governed by a committee or board, to be selected by the carriers, with ODT retaining the right to disapprove such selections or to remove any member at any time. The ODT likewise retains authority to disapprove any information office manager selected by any governing committee.

Each joint information office may take such steps as are "reasonably necessary" to carry out its prescribed functions; but will not have the power to fix compensation for the interchange of property or the rental price of vehicles, nor to lease equipment or assign traffic to specific carriers. Costs of the offices will be shared by participating carriers, and while no carrier will be required to pay a membership fee to avail itself of the service, it may be charged for specific services rendered. The offices are required by the order to give out information as to available equipment and traffic to any carriers requesting it. Applications for permission to establish offices will be received by John L. Rogers, director of ODT's Division of Motor Transport, on special blanks to be provided by the Division.

P. R. R. Puts Observation and Lounge Car Seats on Sale

In order to provide seating accommodations for the largest possible number of passengers, as an aid in meeting wartime travel demands, the Pennsylvania will hereafter sell by reservation all seats in observation and lounge cars on all its trains, except in the cafe sections, which will still be used for the service of refreshments. All other seats will be numbered and sold individually, and will no longer be generally available to passengers holding seats elsewhere in the trains.

The new arrangement will apply both to Pullman cars operated on the Pennsylvania and to its own coach trains, including the Trail Blazer, Jeffersonian, East Wind and South Wind, which carry observation and lounge cars in addition to coaches. The observation and lounge seats will, so far as possible, be assigned to short-trip riders between intermediate stations, leaving the other accommodations for the use of passengers making long journeys. The carrying capacity of the trains will be increased in the case of each Pullman sleeper-observation or sleeper-lounge car by about 25 seats, and for each Pullman parlor-lounge about 12 seats. In the case of the long-distance coach trains the new arrangement will provide seats for about 50 additional passengers on each train.

Heavy Trucks Getting Scarce

The supply of new heavy trucks—two tons capacity and up—"has reached such a stage of depletion that sharp curbs on the number of sales permitted are necessary," the Office of Defense Transportation said this week. It estimated that there remain only 6,000 trucks of this class in the government-controlled pool out of which sales for civilian use are permitted by the War Production Board on the basis of ODT recommendations.

Allocations, ODT said, must be cut to 500 a month if the 6,000 are to suffice for a 12-month period. The monthly rate of sales has been 1,600. Meanwhile approxi-

mately 20,000 light trucks and 52,000 medium trucks are left in the pool for civilian use. However, the entire pool faces depletion in a year at the present rate, ODT pointed out. Thus its reiteration of previous warnings that trucks now in operation be made to last longer by conservation measures and proper maintenance. A total of 760,000 copies of ODT's booklet—"America's Trucks . . . Keep 'Em Rolling" has already been sent out, and mailing is continuing at the rate of 150,000 to 175,000 a day.

Don't Load Freight in Open Tops If Adapted to Closed Cars

Because a preliminary survey has indicated "a decided trend" to the use of open top cars for the loading of commodities previously loaded in closed cars, W. C. Kendall, chairman of the Car Service Division, has asked railroad transportation officers to issue on their respective roads specific instructions, "which will stress the necessity for confining the application of open top cars for the loading of commodities customarily requiring that type of equipment and that box cars shall be applied to the fullest possible extent for all loading."

Mr. Kendall's request was embodied in a July 2 circular which followed upon one he issued a couple of days earlier to urge Western roads to expedite the return home of open top cars owned by Eastern-Allegheny lines. He said that "the abnormally heavy movement of open top cars (principally gondola type) from Eastern-Allegheny territory with tonnage to Western destinations since the late autumn of 1941 has brought about a dislocation of open tops, owned by Eastern-Allegheny roads which now requires action in building up a supply on those lines."

Army Will Try to Hold Meetings Away From Washington

Acting "to help in reducing the peak loads of passenger traffic to and from Washington, D. C.," the War Department, whenever it is feasible, will hereafter hold Army meetings, at which a large attendance is expected and which involve a great amount of travel, in cities other than the Capital. Also, it will undertake to arrange such meetings to permit travel on Tuesdays, Wednesdays, and Thursdays.

Materials and Prices

Following are references to orders of interest to railroads issued by the War Production Board and the Office of Price Administration since June 25.

Appeals—Appeals by manufacturers for relief from restrictions imposed by General Conservation Order M-126, which banned the use of iron and steel in the production of hundreds of common civilian articles, will be passed upon by a new Appeals Branch set up within the Bureau of Priorities to handle all requests for exceptions to conservation and limitation orders, it was announced July 5. The Appeals Section of the Iron and Steel Branch, which has been operating in New York City, has been recalled to Washington and its functions taken over by the new unit. For the time being, the Appeals Branch will consider only requests from firms affected by M-126. Later, it will hear appeals from manufacturers covered by certain other conservation and limitation orders. Appeals from the terms of General Conservation Order M-126 must continue to be made on form PD-437 and filed with the nearest WPB field office.

Bed Springs—Order L-49, limiting the manufacture of beds and springs, extended July 3, restricts the manufacture during July of no more than 65 per cent of the average monthly consumption of iron and steel during the year ended June 30, 1941, for coil, flat and fabric springs for both sleeping and seating purposes, and prohibits the production after September 1 of mattresses or pads containing iron or steel. Beds, bunks, berths and cots are covered by the Steel Conservation Order M-126 and are removed from the restrictions of L-49.

Railroad scrap—Railroad men, government officials and Army and Navy representatives will discuss scrapping obsolete or unused railroad equipment and a salvage checkup on rails, used for purposes other than tracking, in a series of regional conferences organized by the Industrial Salvage Section, Bureau of Industrial Conservation. Meetings will be held at New York City on July 7, at Atlanta, Ga., on July 8, at Chicago on July 10, at San Francisco on July 13 and at Dallas on July 16. Railroad executives will preside at the meetings. Invitations have been extended to chief engineers of maintenance and other executives of 900 railroads. The Association of American Railroads and the American Short Line Association are cooperating in the conferences. Among the most serious problems to be discussed is the need of the Army, Navy and Maritime Commission for railroad rails and ways of filling this need. An estimated 40,000,000 lin. ft. of rail suitable for re-laying might be salvaged. In addition to the unused rails in abandoned railroad spurs and short lines, a large amount of rail is expected to be recovered from rails which are no longer being used for tracks, but for secondary purposes, such as guard railing and road protection at grade crossings. These rails may be salvaged for use by the Army, Navy and Maritime Commission for emergency sidings and spurs in camps, arsenals, foundries, docks and shipyards. The conferences will also discuss the appointment of salvage officers in every company. Bert C. Bertram, salvage director, Railroads Industrial Salvage Section, Bureau of Industrial Conservation, will outline the salvage program proposed by the Bureau.

Shelving—Amendment No. 3 to Limitation Order L-13-a, covering metal office furniture and equipment and issued July 1, ordered manufacturers to accept no orders for steel shelving except those specifically authorized. Authorizations will be issued only for direct delivery to the armed services or Maritime Commission. Shelving manufacturers were previously permitted to make during a three-month period 50 per cent of the amount manufactured in a base period. In addition, they were permitted to accept orders from the armed forces provided delivery was made before July 15.

Typewriters—An interpretation of Order L-54-a regulating the production and distribution of typewriters, issued July 1, undertakes to clear up confusion over the definition of billing and continuous forms handling typewriters. These types of machines are exempt from the typewriter order, but are regulated by order L-54-c, which covers various types of office machinery. Under the interpretation, the definition of machines exempt from L-54-a includes only continuous forms handling machinery, typewriter principle, having carbon paper handling devices constructed as an integral part of the machinery, and billing machines, accounting principle, and collateral equipment. Any other typewriters having devices for billing or continuous forms handling are subject to the provisions of L-54-a.

Prices

Fir lumber—Contracts for delivery of lumber products which were removed from the provisions of the general maximum price regulation and placed under Maximum Price Regulation No. 26, Douglas fir and other West Coast lumber, are subject to the ceiling prices of the specific regulation, it was announced July 1. This means that any lumber, which was not included in the provisions of Revised Price Schedule No. 26 as it stood before it was re-issued as Maximum Price Regulation No. 26 but which was added to this schedule when it was re-issued as Maximum Price Regulation No. 26, may not be delivered after June 29 at a price higher than the specified ceiling regardless of prior contract. The lumber includes heavy timbers and car material.

Freight car material—Maximum Price Regulation No. 174, effective July 2, establishes a schedule of maximum prices for surplus freight car materials and parts. Only surplus car materials sold by one car builder to another car builder or by a car builder to a railroad, whether or not the railroad is a car builder, fall under the provisions of regulation No. 174. The maximum prices are determined by adding to the seller's cost of the material, inbound freight and sales taxes, if any, and direct labor costs for any fabrication work. In order to equalize the burden of transferring materials upon which the manufacturer's profit has already been obtained, selling car builders have been required to absorb any handling, storage or similar expenses, as well as overhead charges on labor used in fabricating any material. Purchasing car builders and purchasing railroads will be obliged to absorb the increased cost of any additional freight shipment which they would not have incurred were they to purchase such materials from their regular suppliers.

Gasoline—A special increase in the price of gasoline, kerosene and light fuel oils became effective June 29 along the Eastern seaboard to cover the increased cost of transporting petroleum products into the restricted area. Gasoline was increased 2½ cents a gal.; kerosene, range oil, tractor fuel, distillate diesel fuel oils, gas house oils and Nos. 1, 2, 3 and 4 fuel oils, 2 cents a gal. There will be no increase on residual fuel oils. The advances are permitted also on retail sales.

Ice—Maximum Price Regulation No. 154 as amended, effective July 3, permits sellers of ice to shift the base period for price ceilings on ice from March to April. Originally, ice prices were established at the highest March, 1942, prices charged. In certain sections of the country it has been customary to advance prices during the summer season. Accordingly, the specific Maximum Price Regulation No. 154 grants the optional summer pricing method.

Machines—Maximum Price Regulation No. 136 as amended, to become effective July 22, supersedes a regulation bearing the same number which was to have gone into effect July 1. This regulation formalizes informal controls over machinery which were set up during the fall of 1941 and the early part of 1942, covering nearly all industrial machinery, railroad equipment and electrical equipment. The regulation extends control to parts and sub-assemblies of such machinery and equipment. After July 22, sales must conform to the maximum price requirements, regardless of the purchase prices paid. If any deliveries are made at higher than maximum prices, refunds must be made prior to September 1. The changes contained in the amended regulation have been directed almost exclusively to the clarification of the regulation's terms, and the removal of obstacles to subcontracting. The regulation lists specific machines and parts, provides that maximum prices for such machines shall be no higher than those charged October 1, 1941, lists other machine parts, provides that their maximum prices shall be no higher than those charged March 31, 1942, and fixes March 31 as the basing date to be used in determining maximum prices for machinery services, including testing, inspecting, maintaining, repairing and rebuilding machines and parts.

Transportation—Amendment No. 3 to Supplementary Regulation No. 11 extends from July 1 to August 1, the effective date of the general maximum price regulation and Maximum Price Regulation No. 165, establishing prices of transportation services, storage and warehousing, stevedoring and allied services. Both price regulations established ceilings at March levels. Amendment No. 3 applies to charges for transportation services of carriers other than common carriers; commercial storage and warehousing; stevedoring; car loading and car unloading; services of freight forwarders, consolidators or distributors not serving the general public as common carriers; terminal services; services of transportation brokers, customs brokers and transpotation agents (other than employees of transportation companies); and pre-cooling, icing, ventilating and heating of shipments and transporting equipment.

GENERAL NEWS

T. P. & W. Wage Case Hearings Concluded

Federal management consents to rule changes, but they aren't "standard"

A new set of working rules for the Toledo, Peoria & Western which are radically different than "standard" rules and those demanded by the transportation brotherhoods at the beginning of the T. P. & W. dispute were presented by the unions as substitutes for their original demands during the final hearing on the wage and rule controversy before Justice Benjamin C. Hilliard at Chicago on July 2. At the close of the hearing Justice Hilliard announced that he would present his recommendations to the National War Labor Board within two weeks.

The new rules introduced by the brotherhoods are the result of a two weeks' conference between the organizations and the federal management of the railroad, which the brotherhoods requested on June 10 when, as reported in the *Railway Age* of June 13, page 1166, the Office of Defense Transportation introduced an exhibit which showed that the rules sought by the brotherhoods would cost the railroad $33,000 a month. The new rules are based upon a different method of train operation than the one that has been in effect and include radical departures from "standard" rules and those proposed by the brotherhoods. In addition, 11 of the rules proposed by the trainmen and 9 proposed by the enginemen and firemen are not included in the new schedule.

In final statements, the brotherhoods asked Jusutice Hilliard to recommend that the N. W. L. B. order that the new rules be placed in effect. George Voelkner, assistant federal manager, expressed the opinion that the new rules are workable on this railroad and are fair to the management and the employees. At the close of the hearing the brotherhoods were still asking that the increased wages sought be made retroactive to November 10, 1940, while the O. D. T. expressed the opinion that it could not agree to any date prior to March 25, 1942, the date of the return of striking employees.

At the close of the hearing before Justice Hilliard, Mr. Voelkner announced that new operating practices, the new rules agreed upon in the conferences with the brotherhoods, and the wage scale of the eastern territory would be placed in effect on the T. P. & W. retroactive to March 25. The new wage scale will increase the payroll of the employees in the dispute $3,200 a month. An increase of $4,802 a month was indicated in the exhibit of the O. D. T. which applied the higher rates of pay to present operating practices. The new rules which will be placed in effect will not increase the payroll.

Under the new plan, payment will be on a pro rata basis with no arbitraries and with practically no overtime which heretofore amounted to about 30 per cent of the payroll. All through freight trains will be speeded up two hours. Duties of crews are expanded but the new plan of operation requires the addition of men which heretofore have worked from the extra board. At the same time the plan releases men on the extra board for military service and eliminates hostlers. Pick-up and terminal switching is executed by line crews.

Club Meeting

On July 16 the Eastern Car Foreman's Association will gather at the Rose Brook Country Club, New Haven, Conn. Recreation and relaxation are the purposes of this meeting, and a day devoted to a golf tournament and other sports and games will be followed by a dinner at 7:00 p.m.

President Okays Appropriation

President Roosevelt has signed the recently-enacted Labor Department-Federal Security Agency appropriation bill for the fiscal year ending June 30, 1943. It carries funds for the Railroad Retirement Board and National Mediation Board.

Texas Intrastate Rates

The Interstate Commerce Commission last week made public a June 24 order instituting an investigation into the refusal of the Railroad Commission of Texas to authorize intrastate rail rates in line with the interstate adjustment authorized in Ex Parte 148. The investigation is docketed as No. 28846.

Would Have I. C. C. Bring Decisions Up to Date

Senator Tydings, Democrat of Maryland, has submitted Senate Resolution 270, which requests the Interstate Commerce Commission to bring up to date its series of volumes entitled, "Interstate Commerce Acts, Annotated."

Vacates Service Order Covering Pennsylvania Flood Situation

The Interstate Commerce Commission on July 3 issued Service Order 76-A, vacating Service Order 76 which had been issued May 26 to authorize railroads operating in Northeastern Pennsylvania, where flood conditions prevailed, to disregard routings and forward cars by most available open routes.

July 4 Passengers Were All Carried

But many of them rode in hot cars in peak period of railroad travel

Railroads serving the Atlantic coast states where gasoline rationing is effective made exceptional preparations to handle record breaking passenger business on the July 4 week-end, and reports indicate that their expectations generally were realized. The volume of traffic was so large at the principal terminals that figures have not yet been compiled to allow precise comparisons with previous years to be made, but it appears certain that no such movement has been handled in recent years.

Statements from the principal Eastern railroads agree in emphasizing that every passenger car and locomotive in serviceable condition was in use. Even so, since much less equipment is available now than in the days when the train was almost the only means of transportation, the resourcefulness of the men responsible for meeting the test was especially taxed to accommodate the peak demands on Friday and Sunday nights.

All accounts agree that trains were crowded, that some of them ran late, and that Pullman space was completely sold out long in advance on many runs. Nevertheless, according to the best information available, no one who wanted to travel by train during the holiday period was unable to do so.

In a statement issued July 2, ODT Director Joseph B. Eastman urged the public to stay at home on the holiday week-end, remarking that "generally speaking, a patriotic way to observe the Fourth of July this year is to dispense with needless travel." This advice was modified, however, by the suggestion that "in some sections of the country the common carriers can accommodate holiday travel better than in other sections. Where travel facilities are adequate, there is no need for travel curtailment." In the opinion of observers in the crowded terminals of the larger cities of the East, there appeared to be no great lack of confidence on the part of the public in the capacity of the railroads.

For the first time in many years no special July 4 excursions were operated to or from any of the large eastern cities, and railroad advertising, instead of featuring service and schedules and places to go, urged the public to make allowances for crowded conditions and to avoid the peak periods when possible.

The rush of business began, particularly in New York and lower New England,

more than a week before the Fourth, when the usual annual summer camp movement started. This differed little from previous recent years, except that Pullman cars were not assigned to such service, but the railroads made unusual efforts to have it out of the way by July 1, so that every passenger car fit for service would be available either for troop movements or for the holiday rush. Cars normally assigned to local commuters' trains were made ready for runs to shore or mountain resorts, and all available motive power was held in readiness to keep extra cars and extra trains moving in and out of terminals with the least possible loss of time.

Equipment was used where it was most needed without much regard for normal practice. For example, two Atlantic Coast Line diners accommodated hungry passengers on a train from Maine to Philadelphia and Washington. Multiple-unit electric cars, pulled by steam locomotives, traveled unfamiliar rails to resort points, and similar suburban equipment, traveling under its own power, was added to the New York-Philadelphia main line through service of the Pennsylvania. The Long Island, departing from its normal holiday schedules, ran many of its regular commuter trains for the convenience of workers in war industries. (This railroad, incidentally, on its steam-powered lines beyond the immediate environs of New York City had the biggest holiday business in its history.)

Travel between New York and Philadelphia and shore resorts, particularly Atlantic City, was very heavy, and during peak periods trains unloaded at terminals were deadheaded straight back to pick up more waiting passengers. The Pennsylvania-Reading Seashore Lines had fewer cars available for this seashore business than in previous years, because of wartime demands, but the shortage was partly overcome by installing coach seats and lighting facilities in the baggage ends of 29 combination cars for such emergency use. Extra ticket-selling facilities were provided in the major stations. Booths were set up in Grand Central Terminal, and windows seldom used handled long lines of customers. At Pennsylvania Station, New York, thirty extra ticket windows were provided, most of them in temporary booths, and an extra information counter was set up for the convenience of service men, in addition to the two regular information counters now in use on the main level.

Training Films for Welders

Joe MaGee is a welder and has a training story to tell in a series of six animated full-color, sound films which have been prepared for and are being distributed by the General Electric Company, Schenectady, New York. Joe is quite likely to become as well known to welders and welding trainees as are other characters in the animated movie field to children. He illustrates all of the common errors in electric-arc welding and explains throughout the films the proper procedures to be followed in all welding positions.

The films, each ten minutes in length, are intended for use in training programs but they can be shown with valuable results even to the most experienced welding operators. Throughout the films the four fundamentals of good welding are constantly stressed: current setting, angle of electrode, arc length, and speed of travel. The first film deals only with basic information; film two demonstrates procedures for welding in the flat position; film three, welding in the horizontal position; film four; alternating-current welding in the flat and horizontal positions; film five, vertical welding; and film six, overhead welding. In all films the photography of the action of the arc is clear.

The General Electric Company is prepared to lend the films to interested users or will make them available at cost to prospective purchasers. Further information can be obtained by addressing Joe MaGee in care of the company. The films were produced by the Raphael G. Wolff Studios, Hollywood, Calif.

June Employment 11.83 Per Cent Above Last Year

Railroad employment increased another 1.73 per cent—from 1,270,401 to 1,292,595—during the one-month period from mid-May to mid-June, while the June total was 11.83 per cent above June, 1941, according to the Interstate Commerce Commission's latest compilation based on preliminary reports. The index number, based on the 1935-1939 monthly average as 100 and corrected for seasonal variations, was 123.9 for June, as compared with May's 123 and June, 1941's 110.8.

June employment in all groups save train and engine service (down 0.18 per cent) was above that of the previous month, the increases ranging from the 0.82 per cent rise in executives, officials, and staff assistants to the 4.99 per cent increase in maintenance of way and structures employees. Meanwhile all groups were above June, 1941, the largest increases being: Train and engine service, 14.87 per cent; professional, clerical, and general, 13.3 per cent; yardmasters, switch-tenders, and hostlers, 13.01 per cent; maintenance of equipment and stores, 11.42 per cent; maintenance of way and structures, 10.91 per cent.

I.C.C. Changes Ex Parte 148 Rule on Disposition of Fractions

Granting in part the request of the railroads, the Interstate Commerce Commission has modified that section of the Ex Parte 148 fare-increase order which promulgates the rule for the disposition of fractions. As reported in the *Railway Age* of June 13, page 1166, the carriers noted how the original rule would have the effect of creating "innumerable" departures from the fourth section's aggregate-of-intermediates provision; and they asked a new rule which would provide that fares resulting from the increase should end in full cents, and that fractions should be eliminated by increasing them to the next cent.

* * *

Reading Employees Donate Traveling Hospital

William R. Hamm, chairman, General Chairmen's Association of the Reading; Dr. Paul Dodd, Chief Medical Officer, State Council of Defense of Pennsylvania; and Edward W. Scheer, president of the Reading and C. R. R. of N. J., examine the traveling hospital unit which, together with two ambulances, was presented to the nation by 11,000 Reading employees, to be used in emergencies at home or sent overseas.

The commission denied the petition, but at the same time modified the rule to provide that fractions of less than one-half cent be dropped, and fractions of a half-cent or more be increased to the next whole cent. Also, the commission's order permits carriers, at their option, to continue until January 20, 1943, under the original rule which provides that where the increase results in a total fare of less than $1, all fractions of less than one-half cent shall be dropped and all over one-half cent shall be adjusted to the next cent; fares over $1 may be adjusted to end in zero or five, but no fare may be increased more than 2.5 cents for that purpose.

Unemployment Insurance Act Amendment

President Roosevelt has signed H. R. 7212, the recently-enacted Railroad Unemployment Insurance Act amendment which gives Kentucky more time in which to effect the transfer to the Railroad Unemployment Insurance Account of unemployment insurance funds collected from railroads prior to the establishment of the federal system.

Money for Study Board

President Roosevelt has transmitted to Congress a request for appropriation of an additional $272,000 for the Transportation Board of Investigation and Research for the current fiscal year ending June 30, 1943. An accompanying letter from Acting Director Wayne Coy of the Bureau of the Budget explained that the need for additional funds arises as a result of the President's recent order extending the life of the Board for two years from next September 18.

Settlements Between Carriers Excluded from Credit Rules

The Interstate Commerce Commission has issued an order in Ex Parte 73, amending its rules for the extension of credit by railroads in such a way as to provide that such rules shall not apply to "interline settlement of revenues from traffic which is transported over through routes composed of lines of common carriers subject to Parts I, II or III of the Interstate Commerce Act." The order is dated June 9.

Suspends Increased Livestock Charges at Chicago

The Interstate Commerce Commission has suspended from July 5 until February 5, 1943, a tariff wherein the Union Stock Yard & Transit Company is proposing to increase charges for loading or unloading livestock at the Union Stock Yards, Chicago, from $1.25 to $4.25 per single-deck car, and from $1.50 to $4.50 per double-deck car. The proceeding is docketed as I. & S. No. 5129.

To Investigate Waterway Labor Dispute

The War Labor Board has named Joseph A. McClain, Jr., dean of Washington University's Law School to serve as special investigator of the dispute involving 4,000 employes of the Inland Waterways, the Mississippi River Barge Line and the Campbell Transportation Company, all of St. Louis, and the American Barge Line Company of Louisville, Ky. The unions involved are the International Longshoremen's Association, the National Maritime Union, the National Marine Engineers' Beneficial Association, the Masters, Mates and Pilots Union, and the Louisiana Labor Protective Association. Upon expiration of the contract on June 1, the union demanded wage increases of about 15 per cent.

Snow Appointed Assistant Director of I.C.C. Bureau

Roswell W. Snow has been appointed assistant director of the Interstate Commerce Commission's Bureau of Water Carriers and Freight Forwarders. He will handle "principally matters relating to freight forwarders."

Mr. Snow was formerly a principal attorney in the Section of Law Enforcement, Bureau of Motor Carriers, and upon the creation of the Bureau of Water Carriers he was transferred to that bureau as principal attorney. The Bureau of Water Carriers became the Bureau of Water Carriers and Freight Forwarders on May 28, following enactment of Part IV of the Interstate Commerce Act for the regulation of freight forwarders.

A. G. Warren Dies

A. G. Warren, who had been an assistant director of the Office of Defense Transportation's Division of Traffic Movement since April, died last week in Johns Hopkins Hospital, Baltimore, Md., following an operation. Mr. Warren, who was in charge of the Section of Traffic Channels, came to ODT from San Francisco, Calif., where he had been district manager for the Car Service Division, Association of American Railroads. His photograph and a sketch of his career appeared in the *Railway Age* of April 25, page 834.

Radio Series Will Describe Work of "The Engineer at War"

At weekly intervals beginning July 16 the National Broadcasting Company will broadcast from 6:30 to 6:45 p.m., E. W. T., over its nationwide network, and possibly also by short wave, a series of eleven radio programs dealing with the contributions of engineers to the prosecution of the war.

The program has been developed by a committee representing the following national engineering societies: American Society of Civil Engineers, American Institute of Mining Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, and American Institute of Chemical Engineers. This committee began its deliberations before Pearl Harbor, and had scripts under way on blackouts, bombs, and damage to structures when the declaration of war emphasized the importance of the proposed radio program. The National Broadcasting Company and the Office of Civilian Defense have endorsed the committee's proposal and contributed to the development of scripts. Controversial matters are included in the broacasts and changes will be made up to the minute that a program goes on the air. In this way the latest authoritative information will be given.

The subject of the first broacast is "Blackouts," for which the script was prepared under the direction of O. C. D. representatives and Samuel G. Hibben, of the Westinghouse Electric & Manufacturing Co. The topic for July 23 is "Protection Against Incendiary Bombs and Gas," prepared by Sidney D. Kirkpatrick, editor of "Chemical & Metallurgical Engineering" and president of the American Institute of Chemical Engineers, and Dr. Arthur Ray.

Freight Car Loading

Loadings of revenue freight for the week ended July 4 totaled 753,855 cars, the Association of American Railroads announced on July 9. Due to the holiday, this was a decrease of 99,586 cars, or 11.7 per cent, below the preceding week, but it was an increase of 13,496 cars, or 1.8 per cent, above the corresponding week last year and an increase of 116,686 cars, or 18.3 per cent, above the comparable 1940 week.

As reported in last week's issue, loadings of revenue freight for the week ended June 27 totaled 853,441 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, June 27

District	1942	1941	1940
Eastern	158,064	190,810	154,984
Allegheny	186,262	203,641	155,730
Pocahontas	55,858	60,166	49,995
Southern	121,969	122,928	101,614
Northwestern	140,387	142,470	123,312
Central Western	123,452	130,425	115,507
Southwestern	67,449	58,164	51,505
Total Western District	331,288	331,059	290,324
Total All Roads	853,441	908,604	752,647
Commodities			
Grain and grain products	44,066	52,931	44,778
Live stock	10,676	9,470	11,041
Coal	166,151	170,884	123,861
Coke	14,123	14,023	10,816
Forest products	52,352	46,404	35,884
Ore	88,167	73,025	67,500
Merchandise l.c.l.	92,209	159,300	149,432
Miscellaneous	385,697	382,567	309,335
June 27	853,441	908,604	752,647
June 20	844,913	885,539	728,493
June 13	832,726	862,974	712,921
June 6	854,689	852,940	702,892
May 30	795,756	801,783	639,120
Cumulative Total, 26 Weeks	21,060,005	19,850,732	16,914,535

In Canada.—Carloadings in the week ended June 27 totaled 67,336, as compared with 66,121 in the previous week and 62,475 in the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
June 27, 1942	67,336	35,804
June 20, 1942	66,121	34,630
June 13, 1942	65,388	33,649
June 28, 1941	62,475	31,191
Cumulative Totals for Canada:		
June 27, 1942	1,639,199	838,522
June 28, 1941	1,493,723	758,976
June 29, 1940	1,299,933	639,089

Phillip W. Coyle Dies

Phillip W. Coyle, who retired in 1931 as traffic commissioner of the St. Louis Chamber of Commerce, died on June 26th at Buffalo, N. Y. at the age of 91. He was born in Steuben County, N. Y. and became a station agent and telegraph

operator for the Erie, while still in his teens. He studied law and served as Justice of the Peace in Great Valley, N. Y., in addition to his railroad work. He became associated with the Wabash in 1887, serving that road consecutively as clerk, traveling freight agent, commercial agent and assistant general freight agent. In 1906 he joined the Business Men's League of St. Louis, the forerunner of the present Chamber of Commerce.

May Locomotive Shipments

May shipments of railroad locomotives totaled 111 as compared with 132 in April and 87 in May, 1941, according to reports made by builders to the Department of Commerce's Bureau of the Census. Shipments for this year's first five months totaled 557 locomotives, including 216 steam, six electrics, 312 Diesel-electrics, and 23 of other types, as compared with a January-May, 1941, total of 351, including 78 steam, 10 electrics, 243 Diesel-electrics, and 20 of other types.

Unfilled orders at the end of may totaled 1,586 locomotives, including 716 steam, 50 electric, 762 Diesel-electric, and 58 of other types. The comparable total as of May 31, 1941, was 734, including 205 steam, 46 electrics, 454 Diesel-electrics, and 29 of other types.

Data supplied by the Car Service Division, Association of American Railroads, on locomotive building in railroad shops show that seven locomotives (all steam) were thus produced in May, as compared with five (all steam) in April, and two steam in May, 1941. During this year's first five months railroad shops produced 31 locomotives, including 26 steam and five electrics, as compared with seven, including five steam and two electrics in the first five months of last year. As of June 1, railroad shops had unfilled orders for 72 locomotives, including 47 steam and 25 electrics.

Railroads and Shipper Fined

Fines totaling $7,500 were imposed upon three railroads and a shipper in the United States District Court for the Northern District of Illinois, in Chicago, on July 3 following their pleas of *nolo contendere* to information charging violations of section 1 of the Elkins Act. The disposition of the cases was announced by the Interstate Commerce Commission in a July 6 statement which gave the fines as follows: Illinois Central, $2,000; Chicago, Milwaukee, St. Paul & Pacific, $1,500; Chicago, Burlington & Quincy, $1,000; Geo. D. Roper Corporation, $3,000.

The information against the Geo. D. Roper Corporation, a shipper, contained three counts and that against the I. C. two counts. The informations against the other two roads each contained one count.

"The violations," said the I. C. C. announcement, "involved manipulations of the provisions of Item 792 of Kipps Tariffs in connection with carload shipments of stoves originating at Rockford, Ill., and destined to Los Angeles, Calif. The shipments were made in two cars purportedly at variance with shipper's orders. Notations appeared on the bills of lading specifying that two cars were furnished by the carriers mentioned in lieu of 50-foot cars ordered, at carriers' convenience. These notations were not in accordance with the actual facts and as a consequence the substitution benefits of Item 792 were inapplicable and substantial defeat of the lawful freight charges resulted."

The notice pointed out that "the violations occurred during the years 1939, 1940, and 1941 and the investigation was instituted and completed by the Bureau of Inquiry prior to the issuance of Service Order 68." That order, effective since February 15, suspends those provisions of Rules 24 and 34 and other tariffs containing similar provisions with respect to the furnishing, substitution, and use of multiple cars for single shipments.

Monthly Comment of Bureau of Transport Economics

Reviewing May revenues of the Class I roads in the latest issue of its Monthly Comment on Transportation Statistics, the Interstate Commerce Commission's Bureau of Transport Economics and Statistics notes that while freight, passenger, and express revenues were up 31.6 per cent, 98.3 per cent, and 12.6 per cent, respectively, from May, 1941, the revenue from mail business was down 1.7 per cent, from $9,086,000 to $8,929,000. This was the first decrease in that item under the like period of a preceding year since November, 1938.

The Bureau's comment on the 34.9 per cent increase in gross revenues for the first five months of this year as compared with the like 1941 period points out that freight revenue increased 33.4 per cent and passenger revenue 61 per cent. It goes on to note that "the increase in freight revenue was at a faster rate for the first five months of this year than for May, while the reverse characterized passenger revenue." Also, attention is called to the fact that the percentage increase in passenger revenue by regions, comparing May of this and last year, varied by over 85 points, ranging from 72.8 per cent in the Great Lakes region to 149.4 per cent in the Southern and 157.9 per cent in the Southwestern region.

The operating ratio continued its downward trend, being 62.5 for May, compared with May, 1941's 67.1. With respect to carloading figures the Bureau cites increases in average loading of both carload freight and l. c. l., adding that such figures demonstrate "the lessened significance which should be attached to comparative carloading figures as a measure of changes in traffic volume." As for May truck traffic, it is pointed out that the increase of 2.6 per cent in volume over May, 1941, as reported by American Trucking Associations "continues the downward trend in the rate of growth which has prevailed for 13 months." First-quarter inter-city bus traffic and revenue figures are given, showing that the Class I motor lines carried 63,235,935 passengers as compared with 62,070,930 carried in railroad coaches. Bus revenues for the quarter were $44,048,122, while rail coach revenues were $78,459,944. During the same quarter, air lines carried 887,965 revenue passengers, an increase of 49.1 per cent over the same period last year, while 8,999,594 revenue passengers were carried by railroads in parlor and sleeping cars, an increase of 42.2 per cent over the first quarter of 1941.

Because the percentage relation of maintenance expenses to operating revenues "loses some of its significance" in a period of changing rates, fares, and wage levels, the Bureau looks at the trend in maintenance averages stated in ratios of man-hours to car-miles. For the first four months of this year there were 179 million man-hours expended on maintenance of way and structures, an average of 1.53 per hundred car-miles. This is a lower ratio than that for the first third of any year in the 1937-1942 period for which the figures are given. For the first four months of 1941, it was 1.6, while for the first third of 1937 it was 1.86. Likewise, the man-hours expended on maintenance of equipment averaged 2.42 per hundred car-miles during the first four months of this year, the lowest of the figures given and comparing with 1941's 2.51 and 1937's 2.81. "In interpreting the decline in the ratio," the Bureau says, "it should be considered that there are some maintenance expenses that do not vary directly with traffic, that the effect of the more efficient use of labor would not be reflected . . . and that the addition of much new equipment tends to keep down repairs per unit of traffic."

While the net railway operating income for May was 24.5 per cent above May, 1941, the Bureau notes how the Northwestern region experienced a 1.6 per cent decrease in contrast with a 59.5 per cent increase in the Southern region, a 77.1 per cent increase in the Central Western, and a 115 per cent increase in the Southwestern region. The decline in the Northwestern region took place "in spite of a drop in the operating ratio from 64.8 to 63.5, and a rise in net revenue from $18,388,000 to $23,175,000," the explanation being "the rise in tax accruals from $4,948,000 to $10,098,000, which more than wiped out the increase in net revenues."

Comment later on about income tax accruals notes that in 46 April reports of Class I roads there were no such accruals. Meanwhile 86 April reports did show such accruals, the largest being the Pennsylvania's $5,827,007, which exceeded the April accruals of "all of the Class I roads of the Northwestern and Southwestern regions combined."

Illinois Central Set Up Records in 1941

A new all-time Illinois Central record was established during 1941 when freight car loadings averaged 33.18 tons per car. This was an increase of 0.92 tons compared with 1940 and an increase of 2.03 tons over the railroad's 20-year average of 31.15 tons per car.

The average ton moved 249.58 miles on the Illinois Central in 1941, compared with 243.18 miles the previous year. The average revenue per ton-mile, however, was the lowest for any year since 1920, being 0.847 cent compared with 0.878 cent in 1940.

Nearly every commodity was loaded more heavily last year, with forest products leading. These were up an average of 1.13 tons per car, from 28.57 tons in 1940 to 29.70 tons in 1941. Agricultural products were up nearly a ton; animals

and animal products rose half a ton; and manufactures and miscellaneous jumped three-tenths of a ton.

The increase over 1940 in tons of freight per car carried on the Illinois Central was double the increase of the railroads as a whole. The national average, however, was 38.2 tons per car, which was 5.02 tons more than the Illinois Central average. For all the railroads the largest increase occurred in the case of agricultural products, the average loading for which was 28.5 tons in 1941 against 27.6 tons in 1940. The loadings for animals and animal products went up half a ton; manufactures and miscellaneous, half a ton; products of mines, four-tenths of a ton; and forest products, one-tenth of a ton.

Master Boiler Makers to Hold "Convention in Print"

Although the Master Boiler Makers' Association had anticipated celebrating its fortieth anniversary by holding a regular meeting of members, in compliance with the request of the Mechanical Division of the A. A. R., it has called off plans for such a meeting. The annual proceedings of the Association will be published based on committee reports submitted after a study of the replies received to questionnaires forwarded to every leading railroad of the country. It is hoped that complete cooperation will be given by railroad officers to whom these questionnaires have been sent. The Mechanical Division of the A. A. R. has approved the choice of subject matter.

Six topics have been selected for study and reports. The first covers general prevention of cinder cutting of locomotive boilers. Application and maintenance of flues, tubes, and arch tubes with special relation to the use of copper ferrules and of welding will be discussed in the second paper. Topic three is concerned with the chemical treatment of boiler feedwater and the use of terminal and line-of-road blowdowns. A study of defects in boilers carrying 200 lb. and over 250 lb. pressure will be made in the fourth paper with particular reference to the nature of defects developed, the materials used in construction, plain carbon steels or alloys, age of boilers and pressures at which defects develop, the effect of different fuels, and general methods of repair. Topic five is related to topic four in that it will include recommendations of the latest methods being used in the fabrication of boilers made of iron, steel and alloy materials. The last paper will deal with the methods of reclamation, conservation, and substitution being practiced on boiler materials.

First Meeting in Salvage Series Held at New York

The first meeting in the series sponsored by the War Production Board to stimulate the collection of salvage materials on the railroads in the interests of the war effort was held at the Hotel Pennsylvania, New York, on July 7. Throughout the meeting special emphasis was placed on the necessity of obtaining large quantities of second-hand rail to be used both as scrap and in the construction of trackage required at war projects, and the program was devoted largely to this phase of the salvage campaign.

A total of 75 interested persons attended, including 59 railroad men representing 35 roads in the eastern part of country. The others present included representatives of the War Production Board, the Office of Price Administration, the Association of American Railroads, the American Short Line Railroad Association, the Office of Defense Transportation, and the armed forces. The railroad contingent of the group was made up principally of the emergency salvage directors that the railroads are appointing to co-operate in the salvage drive, but also included interested officers from the executive, engineering, mechanical and purchases and stores departments.

R. W. Brown, president, Lehigh Valley, acted as chairman of the conference. The principal speaker was Bert C. Bertram, salvage director of railroads, Industrial Salvage section of the WPB Bureau of Industrial Conservation, who spoke on "Railroad Salvage and the War." Other speakers were Captain Charles E. Miller of the U. S. Army, who described the steps that the Army is taking to obtain scrap rails from its arsenals and proving grounds; Gene F. Graham, principal business specialist in the Transportation and Equipment branch of the WPB Division of Industry Operations, who discussed the allocation of both new and relay rail and outlined the rail requirements of the war program; Samuel Ewing, Office of Price Administration, who discussed principally the pricing procedure to be followed when rail is salvaged directly by the army and navy from railway lines; and Major E. T. Butler, Army and Navy Munitions Board, who stressed the need for obtaining relay rail for use at war plants in order to avoid the necessity of using steel-production capacity to obtain new rail for this purpose. Following this program an opportunity was given those present to ask questions regarding the campaign to obtain railroad salvage materials. Clayton Grandy, trade association director, Industrial Salvage Section, Bureau of Industrial Conservation, acted as secretary of the meeting.

Further meetings in the series were held at Atlanta, Ga., on July 8 and Chicago on July 10. These will be followed up by meetings at San Francisco, Cal., on July 13 and Dallas, Tex., on July 16.

New Englanders Study Fuel Movement Problems

About one-quarter of New England's total railroad capacity will be absorbed in bringing in petroleum products if that section is to have enough oil to keep its war production plants in operation and heat its homes next winter, according to an estimate presented to the recent quarterly meeting of the New England Council by J. C. Richdale, vice-president and general manager of the Colonial Beacon Oil Co., and chairman of the Council's committee on liquid fuel.

New England railroads are meeting the challenge by moving increasingly large numbers of tank cars through the four main gateways, and the daily total now averages around 900 cars, about enough to meet the region's needs during the period of lowest consumption. Delivery has been speeded, he pointed out, by the use of solid trains of about 60 tank cars each, which permits routing direct to terminals without going through classification yards. The oil companies are studying the needs of each section of New England to aid in routing cars and speeding turn-around.

At the same meeting R. L. Bowditch, chairman of the Council's solid fuel committee, discussed the present status of the coal movement into New England, pointing out that in 1940 about 70 per cent of the 17,000,000 tons of coal used in that territory came by water, while 24,000,000 tons will be required in 1942 in spite of the fact that the number of collier vessels in service and their speed of operation have been greatly reduced by war conditions.

An increased use of barges to Long Island Sound ports and to other ports not large enough to accommodate colliers has been made possible through the cooperation of railroads in opening new routes for moving coal to New York harbor from West Virginia. Three such routes are now in use: one from the Virginian at Hampton Roads by ferry to Cape Charles, Va., then by the Pennsylvania to South Amboy, N. J.; another through Potomac Yards, Va., from the C. & O. and N. & W. to the Pennsylvania and B. & O. for New York harbor piers; and the third through Hagerstown, Md. A fourth route under consideration would move West Virginia coal from the C. & O. at Marion, Ohio, or from the N. & W. at Columbus via either the Erie, New York Central or Pennsylvania to the New England gateways.

The speaker stated that stocks of coal are accumulating in New England in spite of these transportation problems and difficulties caused by the necessity of dealing with numerous federal agencies having jurisdiction over the coal industry and transportation, and expressed confidence that enough coal would be moved into the region to meet the winter's needs.

Laurence F. Whittemore, assistant to the president of the Boston & Maine, discussed several factors which may eventually limit the performance of the New England railroads in moving the unprecedented fuel tonnage while they are at the same time handling greatly increased amounts of regular freight. He assured the meeting that the main line tracks and classification yards and storage facilities of the railroads are ample to meet any increase in business that may be anticipated, but was less certain that the car supply would be adequate. The most serious limiting factor, however, he stated, is motive power, and so far the War Production Board has not been persuaded to allot enough additional locomotives to New England to meet the railroads' needs.

Bulletin Describes the Library of Bureau of Railway Economics

"The Railroads' Library," a pamphlet just issued by the Bureau of Railway Economics, Washington, describes the special resources of that organization, and

its services not only to railroad people but to other libraries, to informational divisions of the government, and to the public. The booklet outlines the library organization, the nature of the general catalog of over 500,000 cards and the special catalogs, and the chief resources of its principal departments—United States Documents, State Publications, Periodicals, Annual Reports of Railroads, Club and Association Proceedings, Railroad History, and Foreign Publications.

I. C. C. Approves More Contracts for Temperature-Control Services

Seventy-seven additional contracts for the provision of so-called protective services, i.e., temperature-control services for the protection of perishable freight against heat or cold, have been approved by the Interstate Commerce Commission, Division 3, in another report on further hearing in the Ex Parte 137 proceeding which was instituted after the Transportation Act of 1940 gave the commission jurisdiction over this matter. Five other contracts were not approved.

The contracts involved were those filed to become effective July 1 as substitutes for previous ones which the commission had disapproved in its original report in the proceeding. (See *Railway Age* of August 16, 1941, page 290). In that report, the commission outlined the principles which should govern contracts for protective service, "pointing out particularly," as the present report recalls, "that the railroad companies should retain the charges paid by shippers for protective service and should pay the furnishers of such service on the basis of cost plus a reasonable profit."

The present report represents the views of Commissioners Mahaffie and Miller. Commissioner Johnson, dissenting in part, would have disapproved 14 contracts between the Fruit Growers Express Company and non-proprietary lines "in which the unit costs are 10 per cent higher than those stated in the 40 contracts of this car line with its proprietary lines."

Alaska Railroad Survey Under Way Since Early Spring

A survey of a proposed near-coastal railroad to Alaska has been under way since early spring, the War Department revealed last week. The July 4 statement said that the road would supplement the inland Trans-Canadian highway now under construction, rounding out the four-way means of access to Alaska (sea, air, highway, and railroad) recently outlined Lieutenant General Somervell, commanding general, Services of Supply, in testimony before the House of Representatives committee on appropriations.

The project, "calling for an extension of existing rail lines to reach Alaska by the shortest possible rouute," is being conducted by the Corps of Engineers. The survey follows the "B" route proposed by the Alaskan International Highway Commission, "in an almost straight line up the Rocky Mountain trench." The route was chosen, the War Department statement said, because it is the "shortest possible" direct route—1,300 miles—between Prince George and the Alaska railroad; and because it lies in the trench between the Coast Range and the Rocky Mountains, making the winters relatively moderate. Also, "it offers fewer construction difficulties than alternate routes." Four hundred miles have already been surveyed and located.

Construction

Pennsylvania to Spend $3,000,000 on St. Louis Division

Improvements which will cost nearly $3,000,000 and which will further expedite the handling of freight and passenger traffic moving over the St. Louis division of the Pennsylvania and through the St. Louis gateway, are being undertaken by this railroad between St. Louis, Mo., and Indianapolis, Ind. When completed these improvements will add more than 16 miles to the division's double track, shorten the present line by approximately one mile, provide nine passing sidings with 150-cars capacity each, improve the signaling facilities; and thus increase the flexibility of train operation over the line.

The additional track to be built will extend from a point two miles east of Pierron, Ill., to one mile east of Smithboro, a distance of 17 miles, via the existing line. The present double track between Limedale, Ind., and Almeda, will be equipped with reverse signaling, so that trains may move in either direction on either track. The nine passing sidings to be extended comprise two at Marion (west of Coatesville, Ind.) and one each at St. Elmo, Hunter, Smithboro, Highland, St. Jacob, Aden and Casey.

The interlocking plant at Vandalia, Ill., equipped with a centralized traffic control machine, will control the west end of Hunter passing siding, the two cross-over switches at Hunter, Ill., as well as the west end of the passing siding at Vandalia; and the interlocking functions of the crossing of the Pennsylvania and the Illinois Central at Vandalia. The east end of the eastward passing siding at St. Elmo will be controlled from the present interlocking machine at St. Elmo, which now controls the west end of the siding. This plant also performs the interlocking functions at the crossing of the Pennsylvania and the Chicago & Eastern Illinois in St. Elmo. Smithboro will have a centralized traffic control machine installed to control the interlocking functions at the Pennsylvania—Chicago, Burlington & Quincy crossing; and to remote control the east end of the passing siding at Smithboro. New fire-proof interlocking towers are to be built at Vandalia and Smithboro.

Atlanta, Birmingham & Coast.—This road has recently purchased a Red Devil locomotive coaler for installation at Stratford, Ga.

Canadian Pacific.—A contract has been awarded G. A. Baert, St. Boniface, Man., for an extension of 25 ft. to nine stalls of the enginehouse at Winnipeg, Man., to make the stalls 120 ft. long; the construction of a new fan room 30 ft. by 38 ft. of concrete and brick, and a new staff building 52 ft. by 98 ft. of similar construction. The staff building will be heated by steam radiators and unit heaters, and will contain offices for the timekeeper, crew clerk and locomotive foreman; an engineer's locker room; shop lavatory and a mess room.

Chicago, Rock Island Pacific, and Union Pacific.—The J. A. Tobin Construction Company, Kansas City, Kan., has submitted the lowest bid for repairs to the 18th street viaduct across the Chicago, Rock Island & Pacific and the Union Pacific tracks at Kansas City, Kan. The city will let the work which will cost about $71,000.

Pennsylvania.—Additions and improvements to the Bay Junction yard facilities of this road at Sandusky, Ohio, costing $242,000, are nearing completion. The original capacity of the supporting yards of 7,800 cars is being increased to approximately 8,600 cars by additional trackage providing a new classification section in the yards, which will greatly facilitate the dispatchment of empty cars following their return from the railroad's three lake front coal loaders. Also included in the improvements is the relocation of the Sandusky car shop layout.

Pennsylvania. — This company has asked the Interstate Commerce Commission for authority to construct and operate a line of railroad on the right of way of the New Cumberland & Pittsburgh extending from the West Virginia-Pennsylvania boundary line to Raccoon Creek, near Josephtown, Pa., 10.5 miles. The Pittsburgh, Cincinnati, Chicago & St. Louis and the Pennsylvania have asked the Interstate Commerce Commission for authority to construct and operate a line of railroad extending from the terminus of the former's New Cumberland branch at Chester, W. Va., to a point on the West Virginia-Pennsylvania state line, 1.7 miles.

Terminal Railroad Association of St. Louis. — The Missouri State Highway Commission plans the early construction of a reinforced concrete bridge across the tracks of the Terminal Railroad Association on the Hamilton Avenue extension project in northwest St. Louis. The bridge will include two 28-ft., one 34-ft. and two 27-ft., reinforced concrete spans.

War Department.—The U. S. Engineer office at Gary, Ind., has awarded a contract for the construction of 23,150 lin. ft. of track in that state, which will be laid with 80, 85 and some 100 lb. rail.

War Department.—The War Department has awarded the following contracts for railway construction in the Seattle, Wash., district: To the Great Northern for the construction of 22,000 ft. of track and siding, amounting to approximately $229,800, and to Associated Sand & Gravel Company, Everett, Wash., for the construction of eight miles of track and switching facilities, amounting to approximately $150,000.

Supply Trade

J. M. Gilfillan, for the past two years works manager of the **Locke Insulator Corporation,** Baltimore, Md., has been elected vice-president in charge of manufacturing.

S. K. Towson has been elected president and general manager of the **Elwell-Parker Electric Company; W. A. Meddick,** vice-president; and **C. B. Cook,** director in charge of export and government sales, and general sales promotion.

Henry F. Dreyer has been appointed to represent **Manning, Maxwell & Moore, Inc.,** in the sale of locomotive specialties in the New England territory. For the past eight years Mr. Dreyer was employed in an engineering capacity with the New York, New Haven & Hartford.

Major Howard G. Hill, who has been assistant to the chief of the railway section in the office of the chief of engineers at Washington, D. C., since August 1, 1940, has been promoted to the rank of Lieutenant Colonel, transferred to the Execu-

Lt. Col. Howard G. Hill

tive Office of the President, and assigned to the Office of the Co-ordinator of Inter-American Affairs as railroad equipment consultant. He has been detailed as chief of a special mission to investigate the condition of motive power and rolling stock, shops, track and operating methods on the National Railways of Mexico, including both standard and narrow-gage lines. Colonel Hill began his railroad career as an apprentice machinist on the Southern Pacific's Texas and Louisiana lines, in August, 1914. Subsequently he served in turn as draftsman, inspector, instructor of apprentices, locomotive fireman, brakeman and mechanical engineer in charge of locomotive valuation work. In 1920 he joined the Texas Corporation and was associated with that company for 14 years as machine designer, lubricating engineer, and engineer of tests, principally in connection with railway equipment lubrication tests and development work on railroads. He became associated with the Hennessy Lubricator Company, New York, in 1935 as sales and service engineer for western and southwestern states, and specialized in railway equipment lubrication until being called into army service in August, 1940. While in the office of the Chief of Engineers, Colonel Hill prepared specifications for a large amount of military railway equipment now being built for the War Department.

Robinson D. Bullard, reclamation engineer for the **Bullard Company,** Bridgeport, Conn., has been appointed technical consultant to the industrial salvage section of the bureau of industrial conservation of the War Production Board. He will assist in preparing a definitive book on industrial reclamation.

R. Nevin Watt has been appointed general sales manager of the **Baldwin Loco-**

R. Nevin Watt

motive Works. He was formerly sales manager of the Standard Steel Works division of Baldwin. Mr. Watt will have general supervision over all sales of the Locomotive and Ordnance division and the Standard Steel Works division. The products of these divisions include steam, Diesel and electric locomotives, ordnance material, Diesel engines, steel forgings and castings, and rolled steel products. Mr. Watt was born in Philadelphia, Pa., in 1896 and entered the employ of the Standard Steel Works Company, now the Standard Steel

Walker H. Evans

Works division, in 1913. After holding various positions in the company, he was appointed sales manager of Standard in 1930.

Walker H. Evans has been appointed sales manager of the Standard Steel Works division to succeed Mr. Watt. Mr. Evans was born in Kirkwood, Mo., in 1891. After general experience in foundry work he was

Joseph G. Broz

employed by the Baldwin Locomotive Works in 1916. He served in the shops and as erecting engineer in France until 1920 when he was assigned to the Chicago office of Baldwin, where he served until 1932, at which time he became Philadelphia district manager for the Standard Steel Works division.

Joseph G. Broz, formerly sales manager for the Baldwin De La Vergne Sales Corporation, has been appointed sales manager of the Diesel division of Baldwin. His broadened activities will include the management of all the company's sales and service of both the Diesel locomotive and the Diesel engine business. Mr. Broz was born in St. Louis, Mo., in 1898. In 1922 he was placed in charge of sales of the Diesel division of the Fulton Iron Works Company of St. Louis, Mo., and in 1932 joined the De La Vergne Engine Company as district manager at Kansas City, Mo. He became sales manager of De La Vergne in 1939.

H. E. Robinson has been appointed manager of the strip-sheet sales department of the **Jones & Laughlin Steel Corporation,** to succeed **A. J. Hazlett** who was recently appointed assistant general manager of sales. Mr. Robinson was formerly vice-president in charge of sales of the Otis Steel Company, Cleveland, Ohio, which is now the Jones & Laughlin Otis Works. He joined the Otis organization in 1935 as general manager of sales, becoming vice-president in charge of sales a year later.

Murray M. Baker, of Peoria, Ill., has been appointed to the newly-created post of executive vice-president of **R. G. LeTourneau, Inc.** He will make his headquarters at the company's Peoria plant. The new post was created to enable **R. G. LeTourneau,** president, to devote a greater share of his time to the increased engineering activities made necessary by the company's war work. Mr. Baker has been a director of the company for the past four years.

John Hulst, vice-president of the **United States Steel Corporation,** retired July 2 upon completion of more than

40 years of association with the Corporation and its subsidiary companies. A veteran of the period of the steel industry's greatest development, Mr. Hulst was active in U. S. Steel's extensive program of plant modernization.

OBITUARY

D. W. Lloyd, southwestern district manager of the Westinghouse Air Brake Company, with headquarters at St. Louis, Mo., died in that city on July 4.

Robert D. Sinclair, a director of Fairmont Railway Motors, Inc., Fairmont, Minn., and president of the company from 1928 to 1935, died at Ligonier, Ind., on July 2. Prior to 1928, Mr. Sinclair was president of Mudge & Co., Chicago.

Robert J. Magor, chairman and president of the National Steel Car Corporation, Hamilton, Canada, and chairman of the Magor Car Corporation of New York, died July 4 at Montreal, Canada. He would have been 60 years of age on July 6. After leaving Montreal high school, Mr. Magor took his first job with the Salada Tea Company. In 1906 he joined the

Robert J. Magor

Canadian Car & Foundry Co., serving it in various capacities until 1910. In 1910 he went to New York as assistant manager of the Wonham, Magor Engineering Works, Passaic, N. J., which later became the Magor Car Company, and was elected president of that company five years later. In 1919 Mr. Magor and associates purchased the National Steel Car Corporation, which he subsequently rejuvenated and expanded. During the period 1927-1930, he served as an assistant to the receiver for the Dominion Iron & Steel Co. of Canada. In 1931-1932 he served as an economic and financial adviser and relief controller to the Newfoundland government and negotiated the concession of the petroleum monopoly for the island to Imperial Oil, Ltd., which enabled the government to meet interest charges on its national debt. In 1935 he aided the government of Alberta, Canada, in an advisory capacity on economic, financial and relief problems.

Mr. Magor was president of the Montreal Board of Trade in 1934 and was a leader in other philanthropic, civic and religious enterprises. Before the outbreak of the present war he had made extended trips abroad to determine the prospect of Canadian industry obtaining test orders for military equipment, and with the advent of war the National Steel Car Corporation was in a position rapidly to increase its production of military supplies.

William Morris Hager, who retired in 1940 as vice-president of the American Car & Foundry Co., died July 1 at Montclair, N. J. He was 74 years old. From 1899 to 1940 Mr. Hager served as an officer and director of the American Car & Foundry Co., having been successively assistant secretary, secretary, assistant to the president, and vice-president. He was also an officer and director of several of the company's subsidiaries.

New Time-Saver Guide for Diesel Maintenance

A 20-page booklet of practical suggestions and time saving methods for modern Diesel-electric maintenance has been issued by the Westinghouse Electric & Manufacturing Co. The time-saver guide has been specially prepared for Diesel-electric maintenance men. It gives tips on general inspection, hints on preventive maintenance, tells how to reduce wear, lists parts to stock to save repair time, where to get renewal parts, and how to speed repair service. Pages 6 and 7 contain a complete list of recommended renewal parts prepared after a careful study of the most frequently used parts. The operation of Diesel locomotives introduces many maintenance problems not encountered in the operation of steam engines. These problems are discussed in detail and solutions are offered. A copy of booklet B-3122 may be secured from department 7-N-20, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

Equipment and Supplies

FREIGHT CARS

THE CHICAGO & NORTH WESTERN is constructing 25 53-ft. 6-in. cast steel underframe flat cars of 70 tons capacity at its Proviso, Ill., yards. These cars were authorized by the War Production Board on June 4 and are expected to be completed some time this month.

THE LEHIGH VALLEY has received releases from the War Production Board's transportation equipment branch covering 1,000 hopper cars, including 440 of steel construction and 560 of composite wood and steel construction, to be built by the Bethlehem Steel Company. Release of an additional 500 hopper cars is being sought. The railroad was listed in the reported allocation of the final 18,000 freight cars authorized for 1942 construction, published in the *Railway Age* of June 20, as having been allocated 960 hopper cars.

Financial

BESSEMER & LAKE ERIE.—*U. S. Steel Corporation Holdings of Pittsburg, Bessemer & Lake Erie Stock.*—The United States Steel Corporation has applied to the Interstate Commerce Commission for authority to acquire additional shares of Pittsburg, Bessemer & Lake Erie stock. The applicant now holds 66.33 per cent of such stock, and favorable commission action would permit it to increase such holdings to 66⅔ per cent, thus paving the way for unification of P., B. & L. E. with the Bessemer & Lake Erie, which operates the former under a 999-year lease. The application explains that P., B. & L. E. is incorporated under the laws of Pennsylvania and Ohio, and the Ohio law requires that the merger of a corporation must be approved by a vote of two-thirds of its outstanding stock.

BOSTON & MAINE.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Farmington, N. H., to Alton, nine miles.

BOSTON & MAINE.—*Abandonments.*—The Interstate Commerce Commission, Division 4, has authorized this road to abandon segments of two branch lines in Hillsborough County, N. H. One is a 2.2-mile line from Nashua to Hudson; and the other is the 1.5-mile portion of the Milford branch, extending "from a point about 0.5 miles south of Milford Station to the end of the line."

CEMENT, TOLENAS & TIDEWATER.—*Deficit Status.*—Division 4 of the Interstate Commerce Commission has found that this company was not engaged "in general transportation" within the meaning of that phrase as used in section 204 of the Transportation Act of 1920, as amended January 7, 1941, and is not entitled to any payment for any losses incurred during the period of private operation in the federal control period. As a result of this finding, the company's claim has been dismissed.

DANVILLE & WESTERN.—*Abandonment.*—This road has been authorized by the Interstate Commerce Commission, Division 4, to abandon its 26.5-mile line between Fieldale, Va., and Stuart. The authorization is upon condition that applicant shall sell the line to anyone offering within 30 days of the date of the certificate (July 1) to purchase it for continued operation at a fair net salvage value.

ERIE.—*Bonds.*—This company has been granted authority to issue $5,955,850 of first consolidated mortgage four per cent bonds, series C, to be sold at 100.5 and accrued interest and the proceeds applied to the redemption of a like principal amount of first consolidated mortgage 4¾ per cent bonds, series A. The bonds have been sold to the Equitable Life Assurance Society of the United States, through Smith, Barney & Co.

ERIE.—*Controls N. Y. & Greenwood Lake.*—On July 1 the Erie declared operative a plan by which it takes control of the

New York & Greenwood Lake, a New Jersey commuter-service line which it had operated under a leasing arrangement. Holders of the New York & Greenwood Lake prior lien 5 per cent bonds may exchange them for $90 cash plus securities with an indicated market value of about $710, or, at their option, receive straight payment of $750 in cash. Face value of the bonds outstanding total $1,417,600.

ILLINOIS CENTRAL.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to (1) abandon the portion of its Carondelet branch extending from Belleville, Ill., to North Dupo, 10.4 miles; and (2) abandon operation over the portion of the branch from North Dupo, Ill., westwardly to the end of the line at a point near the Mississippi River, 3.2 miles.

LEHIGH VALLEY.—*Acquisition by State Line & Sullivan.*—The State Line & Sullivan has applied to the Interstate Commerce Commission for authority to acquire the four-mile section of the Susquehanna & New York which extends between Monroeton, Pa., and Towanda. The Susquehanna recently obtained authority to abandon its entire line, subject to the condition that it sell any part for a fair net salvage value. The Monroeton-Towanda segment is the State Line's only connection with the Lehigh Valley, owner of 96.9 per cent of its stock and operator of its line. The Susquehanna, the application says, has agreed to accept an offer under which the L. V. would purchase the segment for the account of the State Line at a price of $28,349.10.

NEW YORK CENTRAL. — *Abandonment, Trackage Rights, and Operation.*—The Cleveland, Cincinnati, Chicago & St. Louis and the New York Central, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon all the line between Goshen, Ind., and Niles, Mich., and the operation thereof, except certain segments to be retained as yard and industrial tracks, 28.5 miles. The segments to be retained comprise 0.7 mile in Goshen, Ind.; 3.7 miles in Elkhart, Ind.; and one mile in Niles, Mich.

At the same time the Big Four was denied authority to acquire trackage rights over a line of the New York Central between Goshen, Ind., and South Bend, and over the Michigan Central from South Bend, Ind., to Niles, Mich., and the New York Central was denied authority to operate under these trackage rights.

Division 4 took the position that "the exercise of the operating rights is contingent upon a condition which may or may not arise in the future" and that it could not determine in advance whether such an application would meet the requirements of section 5(2) of the Interstate Commerce Act and be consistent with the public interest. Details of the transaction were set out in the *Railway Age* of February 7, page 358.

NEW YORK, NEW HAVEN & HARTFORD.—*Interlocking Directorate Denied.*—Division 4 of the Interstate Commerce Commission has denied the application of Harry W. Harrison for authority to hold the position of director of this company while continuing to hold the position of director of the Chicago & North Western and the North Pennsylvania. At the same time Division 4 also denied authority to Robert E. Smith to hold the position of director of this company in addition to the position of director of the Chicago & North Western.

Division 4 cited as its reason for refusing the authority in both cases the recent decision of the full commission in which it denied William H. Coverdale authority to hold the position of director of the Gulf, Mobile & Ohio while holding directorships in several other carriers. (See *Railway Age* of June 27, page 1257.) Commissioners Mahaffie and Miller noted that they concurred "only because voting as members of a division, they feel bound by the decision of the entire commission in the Coverdale case."

NORFOLK SOUTHERN. — *Abandonment.* — This company has asked the Interstate Commerce Commission for authority to abandon its Currituck branch extending from Back Bay, Va., to Munden, 5.1 miles.

PENNSYLVANIA. — *Abandonment by the Pennsylvania, Ohio & Detroit.*—The Pennsylvania, Ohio & Detroit and the Pennsylvania, respectively, have asked the Interstate Commerce Commission for authority to abandon a part of the Strasburg branch and the operation thereof extending from Strasburg, Ohio, for a distance of 1.5 miles.

PENNSYLVANIA.—*Abandonment by the Monongahela.*—The Pennsylvania and the Monongahela, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon the so-called Shamrock branch and the operation thereof extending from Shamrock Branch Junction, Pa., to the end of the line at Shamrock Works, 1.4 miles.

PITTSBURGH, CHARTIERS & YOUGHIOGHENY.—*Abandonment.*—This road has applied to the Interstate Commerce Commission for authority to abandon a 2.6-mile section of its main line between Presto, Pa., and Beechmont; and a 1.3-mile section of its Painter's Run branch between Borland, Pa., and Beadling.

RIO GRANDE & EAGLE PASS.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a segment of its line extending from a point about 1 mile southeast of Gardner Siding, Tex., to the terminus of the line at Darwin, 2.9 miles. The company originally asked permission to abandon its entire line extending northwesterly from Laredo, Tex., to Darwin, 24.4 miles, but Division 4 has decided to defer action on the remainder of the line until a full hearing has been held.

SEABOARD AIR LINE.—*Hearings Held on Reorganization Plans.*—During the week ended July 3 a plan of reorganization of the Seaboard Air Line, dated July 1, was filed at Norfolk, Va., with the special master appointed by the U. S. district court of Virginia, and supported by the committees for the first and consolidated mortgage bonds, the receivers' certificates and the underlying bonds. Under the proposed plan the capitalization of the railway would be reduced to $204,835,000, with annual charges including fixed and contingent interest and sinking funds amounting to $6,359,800, as compared with the present capitalization of $306,977,122, with annual charges amounting to $10,919,911. The new capitalization would include the following: Undisturbed receivers' equipment trusts $13,835,000; first mortgage bonds, series AA (for new money), $6,000,000; first mortgage twenty-year 3½ per cent bonds, series A, $13,720,000; first mortgage forty-year 3 per cent fixed, 1 per cent contingent bonds, series B, $26,280,000; income mortgage fifty-year 4½ per cent bonds, series A, $45,000,000; preferred stock, 5 per cent, $100 par value, $15,000,000; and common stock of no par value, $850,000. Hearings in New York on the reorganization plans began July 6. Representatives of the committee for the underlying bondholders were heard on July 6 and 7 and representatives of the committee for the first and consolidated bonds are scheduled to be heard on July 20.

ST. LOUIS SOUTHWESTERN.—*Postponement of Reorganization Hearings Requested.*—In a letter July 7 to the federal district court, Attorney General Thurman Arnold of the anti-trust division of the Department of Justice asked that final hearings on the reorganization plan of this railroad, set for October 26, be postponed until completion of an investigation undertaken by his department concerning the alleged violation of a United States Supreme Court mandate directing the Union Pacific to divest itself of control of the Southern Pacific, which latter road owns a majority of the stock of the St. Louis Southwestern.

SOUTHERN PACIFIC. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a portion of its San Francisco-San Bruno branch extending from Folsom Street to Miguel Street, in San Francisco, Calif., 1.6 miles.

SOUTHERN PACIFIC.—*Abandonment by the Texas & New Orleans.*—The Texas & New Orleans has been authorized by Division 4 of the Interstate Commerce Commission to abandon that portion of its branch line extending eastwardly from Fournet, La., to the end of the branch at Cleon, 2.2 miles.

UNION PACIFIC. — *Abandonment by the Oregon Short Line.*—The Oregon Short Line and the Union Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof extending from Peterson, Idaho, to Gardner, 3.9 miles.

WISCONSIN CENTRAL.—*Interest Payment.*—The federal court at Minneapolis, Minn., has authorized the payment July 15 of six months' interest on this railroad's first general mortgage bonds maturing in 1949. The order provides for payment of the interest coupon which matured July 1, 1934.

Average Prices of Stocks and Bonds

	July 7	Last week	Last year
Average price of 20 representative railway stocks..	25.87	24.97	29.88
Average price of 20 representative railway bonds..	64.17	63.72	64.93

Railway Officers

EXECUTIVES

Harry W. Von Willer, whose promotion to vice-president in charge of traffic of the Erie, with headquarters at Cleveland, Ohio, was reported in the *Railway Age* of July 4, was born at Greensburg, Ind., on August 11, 1896, and first entered railway service in 1915 on the Cleveland, Cincinnati, Chicago & St. Louis. In 1923 he went with the Erie as chief clerk at Indianapolis, Ind., and in 1926 he was appointed commercial agent at that point. The following year he was promoted to general agent at Springfield, Ohio, and in 1930 he was transferred to Minneapolis, Minn. Mr. Von Willer was advanced to division freight agent at Youngstown, Ohio, in September, 1931, and in September, 1935, he was promoted to assistant general freight agent at Pittsburgh, Pa. On August 1, 1938, he was advanced to assistant freight

Harry W. Von Willer

traffic manager, with headquarters at Cleveland, and in June, 1939, he was promoted to freight traffic manager, Western territory, solicitation, with headquarters at Chicago. Mr. Von Willer was advanced to assistant vice-president, traffic, with headquarters at Cleveland on January 1, 1941, which position he held until his recent promotion.

Frederic N. Finch, general manager of the Northwestern district of the Union Pacific, with headquarters at Portland, Ore., has been advanced to executive assistant, a newly created position, with the same headquarters. Mr. Finch was born at Galesburg, Ill., on November 16, 1873, and entered railway service in 1890 as a machinist apprentice on the Chicago, Burlington & Quincy, later serving in various clerical capacities. In 1898 he went with the Northern Pacific as a stenographer in the office of the general manager at St. Paul, later serving as statistician in that office, chief clerk to the superintendent of motive power, chief clerk to the general manager, superintendent of the Montana division and special representative of the operating vice-president. In 1909 he was appointed manager of the Camas Prairie Railroad (operated jointly by the Union Pacific and the Northern Pacific) and on October 1, 1918, he went with the Oregon-Washington Railroad & Navigation Company (now part of the Union Pacific) as assistant general

Frederic N. Finch

manager, with headquarters at Portland. On March 1, 1920, Mr. Finch was appointed assistant general superintendent and on August 1, 1921, he was advanced to general superintendent. In May, 1932, he was advanced to general manager and in December, 1935, his title was changed to general manager of the Northwestern district of the Union Pacific, which position he held until his recent promotion.

Carl Howe, whose appointment as resident vice-president of the Erie at Chicago was reported in the *Railway Age* of July 4, was born on January 11, 1870, and entered railway service as a clerk in the local office of the Michigan Central at Niles, Mich., in 1889, and was appointed freight agent at Chicago Heights, Ill., in 1893. In 1898 he was appointed assistant chief clerk to the freight traffic manager at Detroit, Mich., later being advanced to chief clerk.

Carl Howe

In July, 1900, he was promoted to assistant general freight agent at Buffalo, N. Y., and in 1907 he was appointed traffic manager of the Merchants Dispatch at New York. A year later, Mr. Howe was appointed manager of the New York Central fast freight lines with headquarters at Buffalo and in 1911 he was transferred to Chicago. In 1917 he was promoted to traffic manager of the Michigan Central, with headquarters at Chicago, and in 1927, he went with the Erie as vice-president at Chicago. In June, he was promoted to vice-president in charge of traffic, with headquarters at Cleveland, Ohio, and in January, 1940, he was also placed in charge of industrial development, which position he held until his recent promotion.

W. Alfred Worthington, vice-president of the Southern Pacific Company and of the Southern Pacific of Mexico, with headquarters at San Francisco, Cal., retired on July 1. Mr. Worthington was born in Vallejo, Cal., on June 18, 1872, and began his career with Southern Pacific as a stenographer and clerk to the superintendent of the Sacramento division in 1887. From 1888 to 1904 he became, successively, statistician and chief clerk in the general manager's office in San Francisco, and executive secretary to the president. He was then transferred to Chicago as chief clerk to the director of maintenance and operation for the Southern Pacific and the Union

W. Alfred Worthington

Pacific railroads, and in 1907 became assistant to the director of maintenance and operation for the same roads, first at Chicago and later at New York. In 1913 he was appointed vice-president and assistant to the chairman of the Southern Pacific Company at New York, and in 1925 he was transferred to San Francisco. Mr. Worthington has been connected with the nationwide Committee on Railway Mail Pay for over 30 years and has been chairman of that committee for 20 years. In addition, he has been a member of the General Committee of the Operating Transportation division of the Association of American Railroads and its predecessor committee since 1913, including service as chairman of this and also of a number of other committees acting in behalf of all railroads in the United States.

FINANCIAL, LEGAL AND ACCOUNTING

Arnot L. Sheppard, assistant general attorney of the Terminal Railroad Association of St. Louis, has been promoted to general attorney; **Louis A. McKeown,** attorney, has been appointed assistant

general attorney, and **Walter N. Davis,** general attorney, has been appointed special attorney.

Thomas W. Bockes, general solicitor of the Union Pacific, with headquarters at Omaha, Neb., has been promoted to western general counsel, with the same head-

Thomas W. Bockes

quarters, succeeding **Arthur C. Spencer,** whose death on May 25 was reported in the *Railway Age* of June 6. **T. F. Hamer,** general attorney at Omaha, has been advanced to general solicitor, relieving Mr. Bockes, and **W. R. Rouse,** assistant to vice-president, has been appointed assistant western general counsel. **C. B. Matthai,** assistant secretary and secretary of various subsidiary companies, has been appointed assistant general solicitor. **George C. Holdrege,** assistant general attorney, has been appointed general attorney for Nebraska and Iowa and **W. J. Schall,** attorney, has been advanced to assistant general attorney, replacing Mr. Holdrege. A biography and photograph of Mr. Rouse were published on page 467 of the *Railway Age* of February 28, 1942, following his appointment as assistant to vice-president.

Mr. Bockes was born on March 20, 1885, at Central City, Neb., and studied law at

T. F. Hamer

the University of Nebraska, graduating with the degree of bachelor of laws in 1908. For three years following his graduation he served with a law firm in Lincoln, Neb., then going to Central City to engage in private practice and serve as local attorney for the Union Pacific. On November 1, 1918, he was sent to Omaha to serve as assistant general attorney for the railroad, being advanced to general attorney for Nebraska on January 1, 1933. On January 1, 1936, he was appointed assistant western general counsel, and in August, 1936, he was advanced to general solicitor with headquarters at Omaha.

Mr. Hamer was born and reared at Kearney, Neb., and graduated from the University of Nebraska Law school. He became local attorney for the Union Pacific at Kearney in 1909 and served as attorney and general attorney at Kearney from Jan. 1 until 1936, when he was appointed general attorney at Omaha.

F. E. Gregg, assistant comptroller of the Central of New Jersey, has been promoted to comptroller, with headquarters as before at Jersey City, N. J., succeeding **F. M. Snyder,** deceased. **P. M. Kelly,** auditor of disbursements, has been appointed assistant comptroller, succeeding Mr. Gregg. **H. P. Mead** has been appointed assistant auditor of disbursements, succeeding **W. H. Carpenter,** who has been promoted to auditor of disbursements, to succeed Mr. Kelly.

OPERATING

Joseph P. Cleary, general yardmaster on the Illinois Central at Congress street, Chicago, has been promoted to acting terminal trainmaster at Chicago, succeeding **William E. Curley,** who has been appointed supervisor of rail terminals at Chicago for the Office of Defense Transportation.

George H. Minchin, acting general manager of the Western lines of the Atchison, Topeka & Santa Fe, with headquarters at Amarillo, Tex., has been promoted to general manager and **Clarence R. Tucker,** acting assistant general manager in charge of the Southern district of the Western lines, with headquarters at Amarillo, has been promoted to assistant general manager. Both men became "acting" last October and December respectively, when **Col. John A. Gillies** entered active army service in the Orient and subsequently was reported missing. Mr. Minchin was formerly assistant manager of the Southern district of the Western lines at Amarillo, and Mr. Tucker was formerly superintendent of the Gulf, Colorado & Santa Fe at Galveston, Tex.

B. R. Gould, terminal trainmaster on the Chesapeake & Ohio at Walbridge, Ohio, has been promoted to the newly-created position of assistant superintendent of the Hocking division, with headquarters at Columbus, Ohio. **R. G. Vawter,** trainmaster at St. Albans, W. Va., has been promoted to assistant superintendent of the Hinton division, with headquarters at Hinton, W. Va., succeeding **J. R. Cary, Jr.,** whose promotion to superintendent of the Clifton Forge division was reported in the *Railway Age* of April 11. **H. S. Purdom,** assistant trainmaster at Rainelle, W. Va., has been promoted to trainmaster, with the same headquarters, succeeding **K. R. Ketcham,** who has been transferred to the Coal River sub-division with headquarters at St. Albans, to succeed Mr. Vawter. **O. K. Lawson,** assistant terminal trainmaster at Walbridge, has been appointed terminal trainmaster there, succeeding Mr. Gould.

B. R. Dew, superintendent of the Chicago, Rock Island & Pacific at Cedar Rapids, Ia., has been transferred to the Oklahoma division, with headquarters at El Reno, and has been succeeded by **W. E. Heimerdinger,** superintendent at Ft. Worth, Tex., who in turn has been replaced by **F. L. Campion,** assistant superintendent at Trenton, Mo. Mr. Campion entered the employ of the Rock Island in 1909 as a train dispatcher on the Kansas division. He was promoted to chief train dispatcher on the St. Louis division in 1914, and served in that capacity until 1924 when he was appointed trainmaster on the Arkansas division. Subsequently he held similar positions on the Oklahoma, Southern, St. Louis-Kansas City, Panhandle and Des Moines divisions. In November, 1940, he was promoted to assistant superintendent of the Cedar Rapids division, and in May, 1942, was transferred to Trenton, which position he held until his recent promotion.

W. G. Dorsey, special assistant to the chairman of the Car Service division of

W. G. Dorsey

the Association of American Railroads at Washington, D. C., has been appointed transportation assistant of the Delaware, Lackawanna & Western at New York. A biographical sketch of Mr. Dorsey's career was published in the *Railway Age* of July 4.

Carl L. Sauls, whose appointment as superintendent of the South Florida division of the Seaboard Air Line at Tampa, Fla., was reported in the *Railway Age* of June 27, was born on April 25, 1887, at Raleigh, N. C. Mr. Sauls attended Elon (N. C.) college and entered railroad service on December 1, 1906, with the Seaboard Air Line as telegrapher on the North Carolina division, subsequently serving as car distributor, report clerk, dispatcher, night chief dispatcher, chief dispatcher and trainmaster on the North Carolina division. He then went to Tampa as assistant superintendent and was promoted to superintendent at Arcadia, Fla., on March 1, 1927. When the South Florida and West Florida divisions were consolidated in March, 1928, he was appointed division trainmaster of

the newly-created South Florida division at Tampa, which position he held until June 1, when he was appointed assistant superintendent, the position he held until June 16, when he became superintendent.

John M. Munnings, whose promotion to superintendent of the Grand Trunk West-

John M. Munnings

ern, with headquarters at Battle Creek, Mich., was reported in the *Railway Age* of June 27, was born at Warren, Pa., on July 27, 1884, and entered railway service in 1903 in the transportation department of the Pennsylvania at Warren. In October, 1909, he went with the Grand Trunk (now part of the Canadian National) as a yardman at Belleville, Ont., and was promoted to general yardmaster at that point in 1910. In 1917 Mr. Munnings went with the Grand Trunk Western as general yardmaster at Durand, Mich., and in 1918 he was transferred to Pontiac, Mich. In August, 1933, he was promoted to trainmaster at Durand, and in June, 1936, he was transferred to Pontiac. Mr. Munnings was promoted to operating inspector, with headquarters at Detroit, Mich., on May 1, 1940, which position he held until his recent promotion, effective June 25.

Berkeley Ward, Jr., trainmaster of the Chicago Terminal division of the Pennsyl-

Berkeley Ward, Jr.

vania, has been promoted to superintendent of the Indianapolis division, with headquarters at Indianapolis, Ind., succeeding **James L. Cranwell,** who has been transferred to the Philadelphia Terminal division, as reported in the *Railway Age* of July 4. Mr. Ward was born in New York City in 1891, and attended Virginia Military Institute and the University of Virginia. He entered railway service on April 4, 1910, as a signal repairman on the Fort Wayne division of the Pennsylvania and served in various capacities in the telegraph and signal departments of the Maryland, Trenton and New York divisions until 1923, when he became assistant freight trainmaster of the Middle division, later being transferred successively to the Atlantic division, to the general offices at Philadelphia, Pa., and to the Toledo, St. Louis and Chicago Terminal divisions. In 1934 Mr. Ward was promoted to trainmaster of the Dolmarva division and on November 26, 1936, he was transferred to the Chicago Terminal division.

Walter H. Edmondson, who has been promoted to general superintendent of the Grand Trunk Western, with headquarters at Detroit, Mich., was born on October 22, 1888, at Detroit, Mich., and entered railway service on January 1, 1904, as a messenger in the freight office with the Grand Trunk at Detroit. He worked as

Walter H. Edmondson

a clerk and stenographer in the superintendent's office in Detroit until March 1, 1913, when he was transferred to the general superintendent's office at Chicago. On March 27, 1913, he was made chief clerk in the superintendent's office at Battle Creek, Mich., and in April 22, 1914, he was made chief clerk to the general superintendent at Chicago. On January 1, 1918, he was promoted to division agent at Chicago, and on September 1 of that year, was appointed chief clerk to the general manager at Detroit. He became assistant to the federal manager at Detroit, on May 1, 1919, and on March 1, 1920, was appointed assistant to the general manager. He held the latter position until August 1, 1939, when he was promoted to superintendent at Battle Creek, and on June 25, 1942, he was promoted to general superintendent at Detroit.

Mark C. Williams, general superintendent on the Union Pacific at Portland, Ore., has been promoted to general manager of the Northwestern district, with the same headquarters, succeeding **Frederic N. Finch,** whose promotion to executive assistant is reported elsewhere in these columns. Mr. Williams was born at Delaware, Ohio, on August 29, 1882, and studied civil engineering from 1903 to 1906 at the University of Denver and the University of Colorado. He entered railroad service in 1901 as a rodman on surveys for the construction of the Denver & Salt Lake. He returned to railroad service in October, 1906, as a draftsman for the Oregon-Washington Railroad & Navigation Co. (now part of the Union Pacific) and was later advanced successively to transitman, locating engineer and resident engineer on location and construction work. On February 1, 1914, he was promoted to division engineer, with headquarters at Walla Walla, Wash., and on June 1, 1917, he was transferred to Portland. In August, 1927, Mr. Williams was appointed acting superintendent, with headquarters at Spokane, Wash., and on December 1, 1927, he was promoted to superintendent at that point. In October, 1937, he was transferred to the Oregon division, with headquarters at Portland, and in August, 1941, he was advanced to general superintendent of the Northwestern district, the position he held until his recent promotion.

TRAFFIC

A. D. Muldoon, has been appointed assistant fuel service engineer of the Chesapeake & Ohio, with headquarters at Detroit, Mich., succeeding **A. W. Thorson.**

G. C. Whitlow has been appointed assistant general freight agent of the Chesapeake & Ohio, with headquarters at Richmond, Va., succeeding **W. S. Beale,** deceased.

Virgil T. Ivie has been appointed assistant general freight agent of the Southern, with headquarters at Atlanta, Ga., succeeding **William H. Russell,** who has been furloughed to the Office of Defense Transportation.

C. O. Baker, assistant traffic manager of the Temiskaming & Northern Ontario, with headquarters at North Bay, Ont., has been promoted to traffic manager, succeeding **A. J. Parr,** who retired on June 30. The position of assistant traffic manager has been abolished.

J. E. Doyle, chief clerk to the vice-president in charge of traffic, of the Chesapeake & Ohio and the Pere Marquette, with headquarters at Cleveland, Ohio, has been promoted to assistant to vice-president in charge of traffic, with the same headquarters.

Fred P. Sackbauer, general freight and passenger agent of the Missouri-Illinois with headquarters at St. Louis, Mo., has been promoted to traffic manager, with the same headquarters, and the position of general freight and passenger agent has been abolished.

A. O. Plunkett, general agent of the Minneapolis, St. Paul & Sault Ste. Marie, at Eau Claire, Wis., has been promoted to general perishable freight agent to succeed **J. O. Klapp,** retired. **C. O. Norwick,** general agent at Portland, Ore., succeeds Mr. Plunkett and **J. J. Pearce** suc-

ceeds Mr. Norwick. **R. C. Thorne,** has been appointed general agent at Menasha, Wis.

David R. Thompson, freight traffic manager, of the Erie, with headquarters at Chicago, has been promoted to assistant vice-president with headquarters in Cleve-

David R. Thompson

land, Ohio, to succeed **Harold W. Von Willer,** promoted as announced elsewhere in these columns. Mr. Thompson, entered Erie service in 1914 in the accounting department at New York, and subsequently held the positions of commercial agent, at Kansas City, Mo.; general export agent at New York; foreign freight agent at Chicago; general agent at Minneapolis, Minn.; general eastern freight agent at New York, and assistant general freight agent at Pittsburgh. In January, 1941, he was promoted to freight traffic manager at Chicago, the position he was holding at the time of his recent promotion.

W. G. Whitsett, whose appointment as general passenger agent for the lines south of Birmingham, Ala., of the Louisville &

W. G. Whitsett

Nashville, with headquarters at New Orleans, La., was reported in the *Railway Age* of June 27, was born at Healing Springs, Ala., and is a graduate of the Massey Business College, Columbus, Ga. He later attended Duke University, specializing in economics and transportation. Mr. Whitsett entered railway service in August, 1925, with the Atlantic Coast Line at Dothan, Ala., as ticket seller-stenographer and several months later was appointed ticket agent there. In November, 1928, he was appointed chief clerk to the district passenger agent at Miami, Fla., and a year later was transferred to New York as city passenger agent. From June, 1934, until June, 1937, he served as passenger and ticket agent of the Peninsular & Occidental Steamship Company, Havana, Cuba, and was then promoted to district passenger agent at Havana for the P. & O. Steamship Company. In October, 1941, he was appointed assistant to the general passenger agent, on the A. C. L., at Wilmington, Del., which position he held until his recent appointment.

William B. Futral, assistant freight traffic manager of the Chicago, Rock Island & Pacific at Little Rock, Ark., has been promoted to western freight traffic manager, a newly created position, with headquarters at Los Angeles, Cal. **John E. Capps,** general freight agent at Chicago; **Eldon A. Tharp,** assistant general freight agent at Chicago, and **Joseph Sander,** assistant general freight agent at Chicago, have been

William B. Futral

promoted to assistant freight traffic managers, with the same headquarters. **Arthur L. Talkington,** general freight agent at Ft.. Worth, Tex., has been advanced to assistant freight traffic manager at Little Rock, succeeding Mr. Futral, and **Thomas F. O'Kane,** general agent at Houston, Tex., has been promoted to general freight agent at Ft. Worth, replacing Mr. Talkington. **G. W. Stewart,** general agent at Detroit, Mich., has been advanced to general eastern freight agent, a newly created position, with headquarters at New York, and **Jack L. Kerby,** traveling freight agent at Detroit, has been advanced to general agent at that point, relieving Mr. Stewart. **E. E. Strickland,** assistant freight traffic manager at Chicago, has been transferred to Kansas City, Mo.

Mr. Futral was born at Fort Smith, Ark., on June 19, 1902, and entered railway service in June, 1919, as a station helper on the Gulf, Colorado & Santa Fe at Alta Loma, Tex., and later served as a clerk in the office of the superintendent of transportation at Houston, Tex., and a clerk in the office of the superintendent at DeQuincy, La. On October 15, 1923, he went with the Southern Pacific as a roadmaster's clerk at Lake Charles, La., and on September 16, 1924, he went with the Rock Island as secretary to the superintendent and car distributor at Fort Worth, Tex. On June 15, 1931, Mr. Futral was appointed traveling freight agent at Amar-

John E. Capps

illo, Tex., and five years later he was promoted to division freight agent at that point. On January 1, 1938, he was advanced to assistant general freight agent at Oklahoma City, and in March, 1941, he was promoted to assistant freight traffic manager at Little Rock, the position he held until his recent promotion.

Mr. Capps was born in Denver, Colo., on April 14, 1889, and entered railway service on the Rock Island at Chicago on June 1, 1913. A short time later he was appointed a rate clerk and subsequently served as clerk to the freight traffic manager, clerk to the assistant general freight agent and chief rate clerk, all at Chicago. On December 1, 1921, he was promoted to assistant chief clerk in the general freight department and on June 16, 1923, he was advanced to chief clerk of that department. Mr. Capps was further promoted to chief clerk to the vice-president and freight traffic manager on February 1, 1924, and on February 1, 1935, he was appointed assistant general freight agent at Chicago. On July 1, 1940, Mr. Capps was advanced to general freight agent at Chicago, the position he held until his recent promotion.

C. M. Black, general agent of the Pittsburgh & West Virginia, with headquarters at Pittsburgh, Pa., has been appointed assistant general freight agent—solicitation, with the same headquarters. The position of general agent at Pittsburgh has been abolished.

J. J. King, freight traffic manager of the Akron, Canton & Youngstown, with headquarters at Akron, Ohio, has been appointed traffic manager in charge of rates, with the same headquarters. **R. J. Hanson,** freight traffic manager, has been appointed traffic manager in charge of sales and service, with headquarters at Akron.

George V. McArt, assistant general agent of the Southern Pacific lines at New York, has been promoted to general agent, with the same headquarters, succeeding the late **Frank L. Pickering. William F. Coyne,** traveling passenger agent, has been

appointed assistant general agent, with headquarters as before at New York.

John T. McEntee, assistant general freight agent of the Erie, with headquarters at Buffalo, N. Y., has been appointed general eastern freight agent, with headquarters at New York. **P. J. Napoli,** assistant manager of perishable and dairy traffic, has been promoted to manager of perishable and dairy traffic, with headquarters as before at New York, succeeding **J. A. Russell,** who has been promoted to Western freight traffic manager at Chicago. **J. G. Hill,** assistant freight traffic manager, has been promoted to freight traffic manager, with headquarters as before at Chicago. **G. W. Madsen,** general New England agent at Boston, Mass., has been appointed assistant general freight agent at Buffalo. **B. F. Conway,** general agent at Philadelphia, has been appointed general New England agent at Boston. **H. A. Wilson,** division freight agent at Jamestown, N. Y., has been appointed general agent at Philadelphia, Pa. **C. R. Martin,** general agent at Albany, N. Y., has been appointed division freight agent at Jamestown. **L. J. Marion,** general agent at Dallas, Tex., has been transferred to Albany. **E. W. Keiley,** general agent at Springfield, Ohio, has been transferred to Dallas. **E. H. Huffman,** commercial agent at Cleveland, Ohio, has been appointed general agent at Springfield.

ENGINEERING & SIGNALING

N. C. Pearson, district engineer of the Union Pacific, with headquarters at Portland, Ore., has been appointed division engineer with the same headquarters. **L. V. Chausse,** division engineer at Portland, has been transferred to Pocatello, Idaho, to succeed **L. F. Racine,** who has been transferred to Salt Lake City, Utah.

Waldo F. Follett, signal engineer of the New York, New Haven & Hartford, with headquarters at New Haven, Conn., has been promoted to assistant to chief engineer at New Haven. **Roy E. Taylor** has been appointed signal engineer, to succeed Mr. Follett and **William A. Ford,** field and shop engineer, has been appointed general signal supervisor, with headquarters at New Haven.

A. A. Colvin, engineer and supervisor of bridges and buildings, of the Northern Iowa division of the Chicago & North Western, with headquarters at Mason City, Iowa, has been promoted to division engineer, of the Nebraska division, with headquarters at Norfolk, Neb., to succeed **D. C. Barett,** retired, and has been succeeded by **L. C. Smith,** roadmaster on the Lake Shore division, with headquarters at Green Bay, Wis.

C. W. Baldrige, assistant engineer of the Atchison, Topeka & Santa Fe with headquarters at Chicago, retired on July 1, and has been succeeded by **A. D. Kennedy,** assistant engineer at Chicago. **R. D. Pierson,** division engineer at San Bernardino, Cal., has been promoted to regional engineer at Los Angeles, to succeed **F. D. Kinnie** who has been promoted to chief engineer of the Eastern Lines at Topeka, Kan., as reported in the *Railway Age* of July 4. **R. E. Chambers,** division engineer at Needles, has been transferred to San Bernardino, to succeed Mr. Pierson.

C. H. Hardwick, district maintenance engineer of the Chicago, Rock Island & Pacific, with headquarters at Kansas City, Mo., has been promoted to engineer maintenance of way, with headquarters at Chicago, with direct jurisdiction over all matters pertaining to track and roadway maintenance, and allotments of track forces, track materials and roadway machines. Mr. Hardwick was born in Brayton, Ia., in 1902, and entered the employ of the Rock Island in 1917 as section laborer on the Iowa division. Subsequently he rose to the positions of gang foreman, section foreman, supervisor, steel gang foreman, assistant roadmaster, roadmaster and district maintenance engineer at various locations on the system.

William C. Perkins, district engineer of the South-Central district of the Union Pacific with headquarters at Salt Lake City, Utah, has been promoted to assistant maintenance engineer for the system, with head-

William C. Perkins

quarters at Omaha, Neb. Mr. Perkins was born at Soldier, Idaho, on December 20, 1888, and studied civil engineering at the University of Idaho. He entered railway service on September 21, 1916, in the engineering department of the Oregon Short Line (part of the Union Pacific), with headquarters at Pocatello, Idaho. In the following year he enlisted with the Twenty-third Engineers and served overseas. Following the war he returned to railroad service with the Union Pacific, as assistant roadmaster on the Montana division, where he was later promoted to roadmaster. Subsequently he was advanced to division engineer of the same division, then being transferred to the Utah division. On August 18, 1931, Mr. Perkins was appointed roadmaster of the Utah division, and on May 25, 1932, he was advanced to division engineer of the Kansas division. From January 1, 1933, to August 10, 1934, he served as roadmaster and general roadmaster on the Oregon Short Line. Late in 1934 he was reappointed division engineer of the Kansas division. On January 1, 1937, he was appointed district engineer at Salt Lake City, which position he held until his recent promotion.

G. N. Edmondson, engineer of track of the New York Central, lines Buffalo and East, has been promoted to engineer maintenance of way of the same lines, with headquarters as before at New York, to succeed **W. A. Murray,** who has retired,

G. N. Edmondson

effective June 30. **J. H. Kelly,** division engineer of the Electric division, with headquarters at New York, has been promoted to engineer of track, to succeed Mr. Edmondson, and **J. N. Grim,** division engineer of the Eastern division at New York, has been transferred to the Electric division, succeeding Mr. Kelly. **F. B. Wilcox,** supervisor of track, with headquarters at Batavia, N. Y., has been promoted to division engineer of the St. Lawrence, Adirondack and Ottawa divisions, with headquarters at Watertown, N. Y., succeeding **C. A. Maxeiner,** who has been transferred to the Eastern division, with headquarters at New York, to succeed Mr. Grim.

Mr. Edmondson was born at New Haven, Conn., on August 22, 1879, and entered the service of the New York Central in

W. A. Murray

July, 1901, in the engineering corps. From July, 1903, to November, 1905, he served as assistant supervisor of track and supervisor of track. He was assistant engineer and assistant engineer of track of the Hudson and New York divisions from November, 1905, to May, 1907, then becoming supervisor of track at West Albany, N. Y. In

News Department continued on next left-hand page

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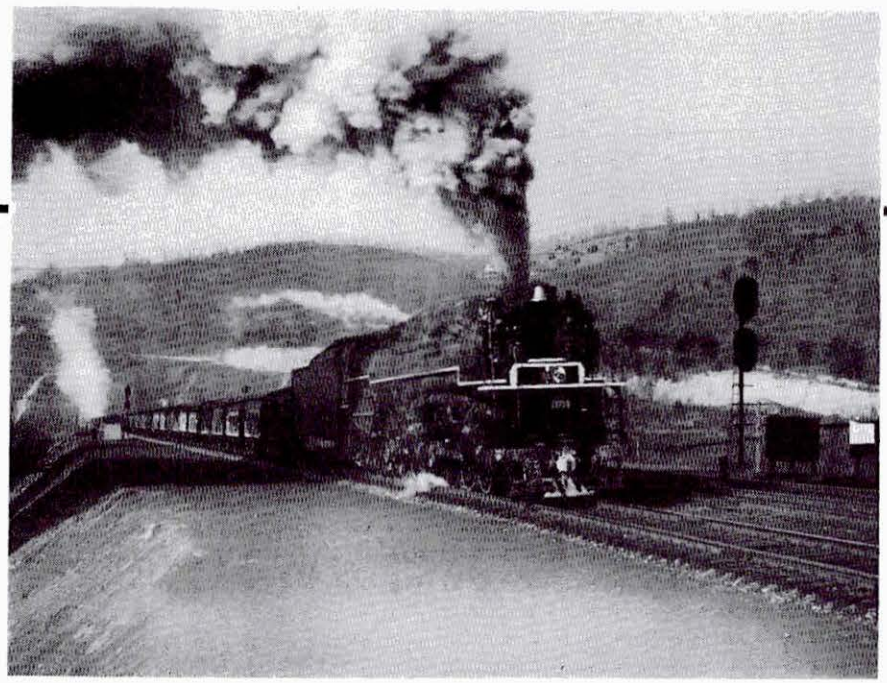

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LIMA LOCOMOTIVE WORKS — LIMA LOCOMOTIVE WORKS INCORPORATED — INCORPORATED, LIMA, OHIO

March, 1910, Mr. Edmondson was appointed assistant division engineer at Utica, N. Y., and was promoted to division engineer at Rochester, N. Y., in April, 1911, being transferred to Jersey Shore, Pa., in June, 1918, and to Albany, N. Y. in June, 1920. Mr. Edmondson was appointed engineer of track at New York in October, 1927, the position he held until his recent promotion.

Mr. Murray was born on June 5, 1876, at Montville, Me., attended Maine Central Institute, Pittsfield, Me., and received the degree of Bachelor of Civil Engineering from the University of Maine in 1899. Mr. Murray entered railroad service in 1900 in the maintenance of way department of the New York Central, serving successively as assistant engineer, supervisor of track, division engineer, engineer of track and engineer maintenance of way.

PURCHASES AND STORES

R. L. Tindal, purchasing agent of the New York, Chicago & St. Louis, has been designated to serve in the same capacity on the Chesapeake & Ohio and Pere Marquette with headquarters at Cleveland, Ohio. **S. R. Secor,** assistant purchasing agent of the Chesapeake & Ohio, has been promoted to assistant to the general purchasing agent. **J. R. Clary,** chief clerk, purchasing department, and **W. R. Bowers,** clerk of the agreement bureau, purchasing department, of the Chesapeake & Ohio, have been promoted to assistant purchasing agents at Cleveland.

William J. Sturges, purchasing agent of the Canadian National western region with headquarters at Winnipeg, Man., has retired from active service. He was born at Fairfield, Vt., on August 28, 1877, and began his railway career as a clerk in the master mechanic's office of the Ogdensburg & Lake Champlain at Malone, N. Y., in 1897. A year later he became a billing clerk for the Canada Atlantic Transit Co., at Depot Harbor, Ont., and for eight years was an accountant in the stores department of the Central Vermont at St. Albans, Vt. In November, 1907, he was appointed storekeeper for the Grand Trunk Pacific at Portage la Prairie, Man., and in 1914 was transferred to Transcona, Man. He became assistant purchasing agent in 1917 and in 1921 was appointed assistant fuel agent for the Canadian National at Edmonton, Alta. He was appointed fuel agent at Winnipeg in 1923, and held this position until 1932 when he became fuel and tie agent. In October, 1938, he was promoted to purchasing agent for the western region of the Canadian National at Winnipeg.

J. S. Fair, Jr., whose promotion to purchasing agent of the Pennsylvania at Philadelphia, Pa., was reported in the *Railway Age* of July 4, was born at Ft. Leavenworth, Kan., on December 22, 1905. Mr. Fair was graduated from Cornell University in 1928, with the degree of mechanical engineer. He entered the service of the Pennsylvania as special apprentice on June 11, 1924, becoming motive power inspector on October 3, 1930. After serving in several capacities at the Altoona works he went to Harrisburg, Pa., as gang foreman in the enginehouse on July 1, 1934, transferring to Philadelphia on February 7, 1935. The following month he was assigned to special duty in the purchasing department, later returning to the Philadelphia enginehouse for several months. On October 1, 1936, Mr. Fair became office

J. S. Fair, Jr.

manager in the purchasing department and on July 16, 1938, he was appointed assistant to purchasing agent. On May 15, 1941, he became assistant purchasing agent and on February 1, 1942, he was appointed assistant stores manager. Mr. Fair was appointed acting purchasing agent on February 16, 1942, which position he held until his appointment as purchasing agent, effective June 16.

A. W. Hix, who has been promoted to general purchasing agent of the Chesapeake & Ohio, the New York, Chicago & St. Louis, and the Pere Marquette, to succeed **R. M. Nelson,** retired as reported in *Railway Age* of July 4, was born at Bramwell, West Va., in 1893 and entered railway service on November 24, 1908, as stenog-

A. W. Hix

rapher to the storekeeper on the C. & O., at Richmond, Va. In February, 1910, he was appointed stenographer to the assistant chief clerk and, after serving in various clerical positions, was promoted to assistant to the director of purchases and stores at Richmond in April, 1922. Mr. Hix was transferred to Cleveland in August, 1929, to serve both the C. & O. and the Pere Marquette in the same capacity and in 1931 he was promoted to office manager for the assistant vice-president of the C. & O. and the Pere Marquette. Two years later he was appointed office manager for the vice-president of the C. & O. and in July, 1936, he was advanced to assistant to the chief purchasing and stores officer of the C. & O., the Nickel Plate and the Pere Marquette, which position he held until June 1, 1941, when he was promoted to assistant purchasing agent. In February, 1942, he was made acting general purchasing agent.

Mr. Nelson was born in Hanover County, Va., on November 6, 1873, and started with the C. & O. in 1890, as clerk in the freight office at Richmond, Va. He was transferred to the purchasing department, in 1912, as chief clerk, and subsequently was made assistant purchasing agent, purchasing agent, and assistant director of purchases and stores. In September, 1939, he was made general purchasing agent of the C. & O., the Nickel Plate and the Pere Marquette.

OBITUARY

William J. Daily, freight traffic manager of the Delaware, Lackawanna & Western, with headquarters at New York, died

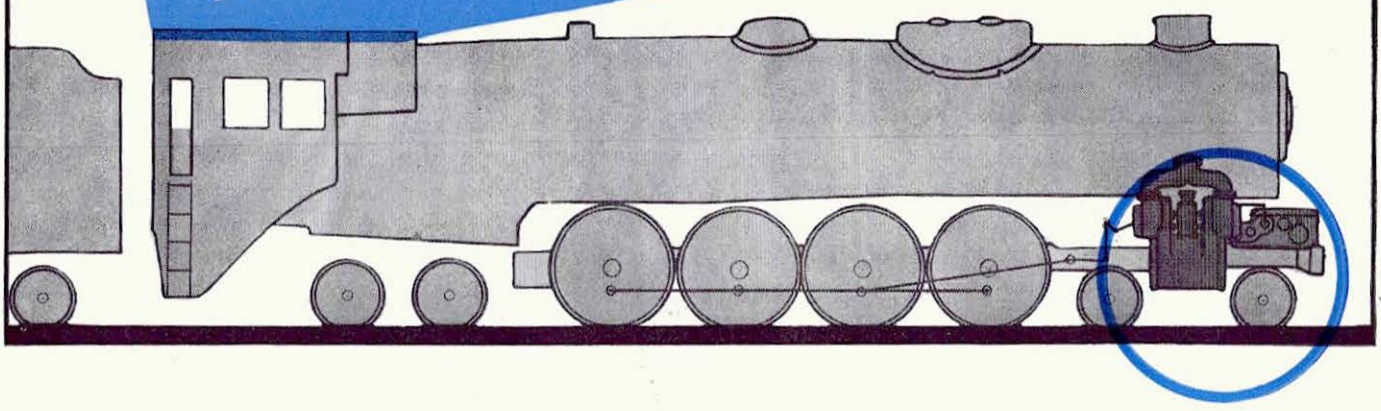
William J. Daily

on July 2 at his home in South Orange, N. J., at the age of 63. Mr. Daily has been ill since early in June. He was born in Bethlehem, Pa., on October 17, 1879, and entered railroad service with the Lehigh Valley in 1897, serving with this road for 11 years. He entered the service of the Delaware, Lackawanna & Western as tariff clerk in February, 1908 serving successively as chief tariff clerk, chief clerk, chief of the tariff bureau and assistant general freight agent. On June 1, 1933, he was promoted to general freight agent and in April, 1935, he was promoted to assistant freight traffic manager. Mr. Daily became freight traffic manager in September, 1935, the position he held until his death. He was chairman of the advisory tariff committee of the Trunk Line Association from 1923 to 1931.

Table of Revenues and Expenses Begins on next left-hand page

THE FRANKLIN SYSTEM OF Steam Distribution

...removes the restrictions that rob your locomotive of 33⅓% of its power



The capacity of the conventional piston valve and valve gear to handle steam has been the restricting factor in increasing train load-speed in any given locomotive. In tests run by the A. A. R., it has been found that none of the locomotives under test reached the limit of its boiler capacity. Thus, as speed increases, the ability of the locomotive cylinders to use steam effectively becomes increasingly important.

Through the application of The Franklin System of Steam Distribution it is possible to obtain productive use from the 33⅓% potential power that has heretofore been locked-up in the boiler because of the limitations of the piston valve and the conventional valve gear.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Akron, Canton & Youngstown	May	171	$271,966	$70	$281,725	$47,166	$30,232	$15,593	$83,017	$188,040	66.7	$93,685	$65,591	$51,992	$68,152
	5 mos.	171	1,282,036	315	1,330,106	195,531	141,093	77,325	400,725	871,811	65.5	458,295	324,132	256,593	309,277
Alton	May	959	1,712,032	389,042	2,361,688	282,095	352,670	49,199	801,099	1,584,433	67.1	777,255	456,637	279,387	150,513
	5 mos.	959	7,926,914	1,655,725	10,725,428	1,099,477	1,567,115	246,875	4,278,120	7,662,496	71.4	3,062,932	2,261,223	1,304,331	501,952
Atchison, Topeka & Santa Fe System	May	13,362	21,951,223	3,897,644	27,526,434	3,068,005	4,355,645	487,769	7,922,074	16,277,862	59.1	11,248,572	5,826,463	5,385,557	2,865,723
	5 mos.	13,365	97,332,795	14,677,860	120,357,834	12,942,865	20,990,130	2,451,646	36,784,753	75,396,258	62.6	44,961,576	21,725,879	21,439,685	10,501,201
Atlanta & West Point	May	93	216,524	69,367	316,823	28,032	35,449	9,248	99,869	187,528	59.2	129,295	71,980	51,798	4,680
	5 mos.	93	949,366	285,679	1,379,866	125,901	173,010	45,513	487,653	901,572	65.3	478,294	256,428	165,253	65,071
Western of Alabama	May	133	247,112	74,468	356,215	34,130	40,902	9,083	106,237	204,029	57.2	152,186	79,688	72,115	12,149
	5 mos.	133	1,062,534	296,630	1,489,669	141,622	207,484	44,840	473,036	930,124	62.4	559,545	281,748	256,025	82,401
Atlanta, Birmingham & Coast	May	639	422,235	26,029	480,985	58,566	62,118	27,169	189,056	355,348	73.9	125,637	97,718	80,507	2,456
	5 mos.	639	1,811,651	168,630	2,104,866	264,275	309,698	132,870	894,163	1,689,185	80.3	415,681	281,193	112,432	15,916
Atlantic Coast Line	May	5,008	7,478,940	1,769,869	9,803,099	659,895	1,452,910	159,064	2,756,266	5,295,149	54.0	4,507,950	2,907,950	2,623,216	1,165,762
	5 mos.	5,009	31,048,674	8,741,691	42,560,160	3,055,112	6,734,346	925,623	13,230,915	25,432,107	59.8	17,128,053	11,673,053	10,306,659	6,068,687
Charleston & Western Carolina	May	343	311,838	6,702	325,469	31,601	47,547	9,652	101,146	195,737	60.1	129,732	84,732	80,063	90,371
	5 mos.	343	1,517,751	43,075	1,593,810	163,915	230,606	50,330	490,759	967,007	60.7	626,803	411,803	392,598	374,734
Baltimore & Ohio	May	6,250	22,762,191	2,000,251	25,977,092	2,213,008	5,199,781	486,496	8,111,312	16,860,182	64.9	9,116,910	5,818,919	5,070,427	5,702,705
	5 mos.	6,264	100,394,623	8,276,065	114,022,364	9,364,141	25,733,663	2,285,901	39,052,785	80,278,731	70.4	33,743,633	23,219,765	20,788,165	17,315,478
Staten Island Rapid Transit	May	24	118,562	81,339	208,717	17,485	25,290	1,102	88,395	146,114	70.0	62,603	34,162	26,088	—1,405
	5 mos.	24	482,953	373,870	897,680	70,632	129,483	6,204	451,776	724,179	80.7	173,501	36,289	—12,135	—96,697
Bangor & Aroostook	May	603	558,165	38,625	620,464	103,007	92,418	5,939	152,452	380,054	61.2	240,410	134,290	152,573	174,700
	5 mos.	603	3,146,406	169,142	3,429,517	469,180	469,594	29,066	845,353	1,945,458	56.7	1,484,059	863,053	893,560	877,543
Bessemer & Lake Erie	May	214	2,438,162	755	2,455,205	152,224	507,451	13,048	359,127	1,068,810	43.5	1,386,395	518,866	578,773	1,090,666
	5 mos.	214	7,044,475	3,933	7,117,629	725,167	2,980,851	70,387	1,385,227	5,357,329	75.3	1,760,300	676,616	1,133,286	2,360,431
Boston & Maine	May	1,865	4,712,710	1,135,508	6,421,273	736,585	871,578	69,988	2,109,778	3,977,129	61.9	2,444,144	1,554,316	1,262,277	1,091,228
	5 mos.	1,865	22,372,969	4,758,482	29,802,354	3,450,810	4,459,635	348,298	10,592,414	19,769,784	66.3	10,032,570	6,471,503	4,911,476	3,926,954
Burlington, Rock Island	May	228	63,060	36,985	109,788	15,096	34,663	2,211	48,943	112,666	102.6	—2,878	—12,734	—17,371	17,194
	5 mos.	246	403,612	157,853	604,990	96,955	98,984	12,026	270,217	534,998	88.4	69,992	21,903	—13,054	—40,515
Cambria & Indiana	May	37	168,039	.....	168,106	8,932	58,530	426	18,543	93,366	55.54	74,740	—16,015	58,218	79,395
	5 mos.	37	865,412	.....	865,758	39,885	294,995	2,477	89,341	459,304	53.05	406,454	—5,332	356,893	328,950
Canadian Pacific Lines in Maine	May	234	347,351	61,422	427,033	77,718	55,834	7,001	129,860	277,328	64.9	149,705	133,921	104,295	92,506
	5 mos.	234	2,026,582	238,936	2,350,176	255,228	296,539	34,120	718,684	1,338,476	57.0	1,011,700	932,123	791,092	654,667
Canadian Pacific Lines in Vermont	May	90	95,578	6,924	114,945	27,815	24,995	2,535	79,195	138,061	120.1	—23,116	—31,821	—57,221	—57,875
	5 mos.	90	464,473	37,700	557,406	109,767	120,903	12,221	397,946	658,207	118.1	—100,801	—139,543	—261,012	—169,309
Central of Georgia	May	1,815	1,790,354	304,631	2,247,915	233,971	358,308	59,649	765,961	1,521,231	67.7	726,684	587,693	577,379	334,901
	5 mos.	1,815	8,057,824	1,401,516	10,338,282	1,165,217	1,701,365	301,138	3,941,325	7,598,137	73.5	2,740,145	2,049,075	1,977,893	1,372,767
Central of New Jersey	May	661	4,178,956	548,782	4,991,162	473,512	772,709	47,420	1,842,329	3,244,569	65.0	1,746,593	1,221,649	881,774	609,256
	5 mos.	661	18,613,112	2,297,318	22,133,785	2,066,418	3,836,033	240,542	8,777,801	15,455,376	69.8	6,678,409	4,435,080	2,956,529	1,035,476
Central Vermont	May	422	577,887	48,000	666,600	92,071	105,051	11,415	256,626	486,203	72.9	180,397	147,359	105,431	161,359
	5 mos.	422	2,767,386	222,000	3,180,355	400,319	512,141	55,233	1,311,991	2,388,632	75.1	791,723	638,877	431,825	534,241
Chesapeake & Ohio	May	3,124	15,197,594	820,626	16,631,812	1,324,512	2,592,330	229,455	3,574,584	8,072,878	48.5	8,558,934	2,436,856	2,636,778	4,833,174
	5 mos.	3,124	62,541,226	3,041,609	67,783,063	6,801,308	12,180,464	1,117,481	16,365,171	38,207,583	56.4	29,575,480	11,324,468	12,502,330	14,114,212
Chicago & Eastern Illinois	May	925	1,284,547	309,188	1,759,530	196,069	338,555	61,646	621,878	1,297,342	73.7	462,188	322,188	203,127	209,633
	5 mos.	925	6,266,264	1,254,200	8,342,715	885,085	1,503,411	304,523	3,163,977	6,235,228	74.7	2,107,487	1,447,487	857,736	919,500
Chicago & Illinois Midland	May	131	490,751	929	514,210	64,747	90,013	20,136	117,763	313,871	61.0	200,339	74,491	66,252	118,223
	5 mos.	131	2,429,091	3,827	2,537,387	265,770	418,906	110,313	616,417	1,521,261	60.0	1,016,126	381,146	335,987	425,039
Chicago & North Western	May	8,265	8,578,367	1,588,696	11,061,198	1,272,807	1,973,631	193,347	3,602,109	7,443,938	67.3	3,617,260	2,197,288	2,050,570	1,674,695
	5 mos.	8,265	38,844,381	6,441,582	50,032,244	5,868,767	9,872,637	973,178	18,400,892	37,042,773	74.0	12,989,471	8,049,481	7,065,273	5,391,454
Chicago, Burlington & Quincy	May	9,085	9,452,245	1,278,553	11,768,990	1,875,338	1,868,811	234,253	3,640,098	8,000,360	68.0	3,768,630	1,891,181	1,853,684	614,080
	5 mos.	9,091	45,289,787	5,468,720	56,036,446	6,157,225	8,979,507	1,249,857	18,113,920	36,412,254	65.0	19,624,192	10,146,688	9,364,357	6,318,991
Chicago Great Western	May	1,502	1,711,523	108,537	1,940,465	227,004	276,878	61,454	685,505	1,313,975	67.7	626,490	328,597	168,648	277,804
	5 mos.	1,502	8,566,964	461,240	9,663,596	1,122,150	1,374,291	310,351	3,542,775	6,653,061	68.8	3,010,535	1,941,902	1,027,804	1,021,772
Chicago, Indianapolis & Louisville	May	549	835,127	62,433	961,366	107,926	166,802	29,131	301,594	642,175	66.8	319,191	269,899	212,867	144,728
	5 mos.	549	4,089,025	250,236	4,666,921	425,029	837,663	147,320	1,544,897	3,136,390	67.2	1,530,531	1,283,115	934,323	613,669

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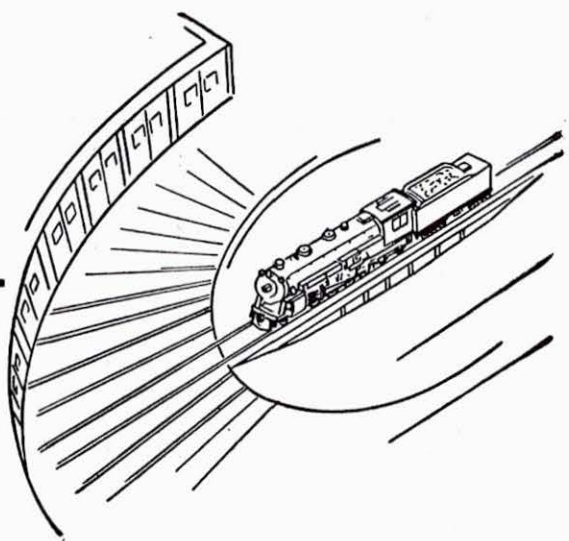
SPECIAL BRICK SHAPES ...are a nuisance



The initial standardization of Arch Brick shapes and sizes and Arch tube spacing was the work of the American Arch Company.

It is a work that goes forward constantly and saves the Stores and Mechanical Departments a vast amount of trouble.

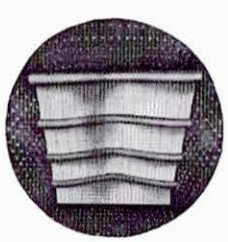
The easiest solution to many a locomotive Arch engineering difficulty would be to use a special brick shape. But this the American Arch Company is willing to do only as a last resort. Over 50% of all Arch Brick is covered by 6 separate patterns.

The insistence of American Arch Company on adhering to standards has simplified the work of the Storekeeper and Maintenance Man. It is only one of the many ways in which American Arch Company is serving the railroads.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Operating income	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1942	1941
Chicago, Milwaukee, St. Paul & Pacific	May	10,821	$11,460,279	$1,172,079	$13,939,402	$2,603,186	$2,096,319	$236,261	$4,404,895	$9,819,552	70.4	$4,119,850	$2,375,850	$2,082,575	$1,679,255
	5 mos.	10,821	54,699,031	4,948,733	65,296,641	8,390,389	10,214,296	1,163,275	22,598,823	44,782,043	68.6	20,514,598	13,128,598	11,533,476	9,433,243
Chicago, Rock Island & Pacific	May	7,925	7,524,867	1,537,549	9,726,597	1,186,260	1,540,884	285,641	3,254,362	6,698,330	68.9	3,028,267	2,475,944	2,117,134	1,444,254
	5 mos.	7,930	36,372,506	6,935,003	46,600,817	4,899,207	7,622,658	1,436,751	16,286,513	32,406,328	69.5	14,194,489	11,519,076	9,796,531	6,185,303
Chicago, St. Paul, Minneapolis & Omaha	May	1,629	1,536,660	181,688	1,831,588	277,038	289,836	40,752	783,051	1,460,051	79.7	371,537	247,263	205,276	231,345
	5 mos.	1,629	7,404,715	827,506	8,809,486	1,062,651	1,554,578	205,938	3,952,325	1,127,322	80.9	1,682,164	1,058,538	593,649	281,801
Clinchfield Railroad	May	308	1,058,252	5,608	1,069,536	63,175	143,057	21,512	207,465	453,020	42.4	616,516	511,565	524,605	479,635
	5 mos.	308	4,935,504	23,223	4,989,532	269,959	732,804	105,974	995,281	2,198,881	44.1	2,790,651	2,267,648	2,288,300	2,219,497
Colorado & Southern	May	755	622,667	116,630	798,237	88,657	126,626	14,555	282,049	544,552	68.2	253,685	202,028	195,198	33,415
	5 mos.	755	2,852,892	537,791	3,690,187	305,470	667,921	73,998	1,356,541	2,563,064	69.5	1,127,123	841,962	745,708	334,485
Fort Worth & Denver City	May	804	396,647	179,343	665,697	80,701	108,736	20,196	237,811	490,213	73.6	175,484	136,532	108,148	56,907
	5 mos.	804	2,047,933	801,955	3,247,421	374,044	519,218	106,724	1,076,447	2,278,293	68.1	1,069,128	876,465	737,412	209,328
Colorado & Wyoming	May	42	97,690	.....	158,965	28,734	12,788	1,009	53,739	100,852	63.4	58,113	29,038	28,248	29,916
	5 mos.	42	453,741	.....	725,864	70,319	63,344	4,440	259,352	419,497	57.7	306,367	150,199	148,218	188,502
Columbus & Greenville	May	168	88,950	2,851	97,727	20,335	16,838	4,241	34,422	86,101	88.1	11,626	4,740	7,802	9,909
	5 mos.	168	464,352	14,598	509,926	112,876	90,339	23,132	177,302	462,245	90.6	47,681	—8,619	220	50,788
Delaware & Hudson	May	849	3,703,026	111,218	3,904,207	398,712	758,222	44,560	1,252,321	2,555,372	65.5	1,348,835	975,455	888,920	760,287
	5 mos.	849	17,042,543	502,207	17,956,808	1,684,072	3,529,190	222,858	5,915,980	11,868,198	66.1	6,088,610	3,958,046	3,653,949	2,720,193
Delaware, Lackawanna & Western	May	985	5,012,776	741,777	6,319,783	638,491	908,055	107,176	2,258,051	4,067,948	64.4	2,251,835	1,171,835	1,156,781	1,019,461
	5 mos.	985	22,442,194	3,245,506	28,276,646	2,272,167	4,412,828	549,566	11,354,086	19,359,059	68.5	8,917,587	4,430,587	4,214,623	4,101,217
Denver & Rio Grande Western	May	2,422	3,420,834	291,573	3,866,392	389,893	764,745	89,361	1,204,864	2,565,960	66.4	1,300,432	1,062,314	1,030,011	—27,360
	5 mos.	2,429	14,894,715	1,186,117	16,854,403	1,300,320	3,480,551	444,247	5,744,237	11,542,369	68.5	5,312,034	4,163,877	4,004,816	266,634
Denver & Salt Lake	May	232	200,326	3,712	214,019	44,760	41,638	2,387	70,296	168,738	78.8	45,281	17,689	70,690	4,760
	5 mos.	232	898,967	25,689	969,640	132,731	218,693	13,234	343,788	757,640	78.1	212,000	83,753	328,588	206,586
Detroit & Mackinac	May	242	63,257	2,820	75,773	15,854	16,898	709	25,949	62,608	82.7	13,165	9,866	7,429	3,626
	5 mos.	242	291,699	15,506	350,280	51,610	65,292	3,616	133,430	270,417	77.2	79,863	62,262	42,916	—13,399
Detroit & Toledo Shore Line	May	50	282,740	.....	284,420	39,831	24,763	9,069	84,957	166,393	58.5	118,027	79,274	32,659	44,322
	5 mos.	50	1,803,553	.....	1,809,889	141,910	132,677	45,946	485,394	846,458	46.8	963,431	634,528	343,857	438,007
Detroit, Toledo & Ironton	May	465	577,739	448	609,395	77,728	111,442	15,134	171,209	397,969	65.3	211,426	117,959	112,490	275,016
	5 mos.	465	3,480,916	1,797	3,650,244	384,880	568,844	69,618	910,988	2,049,468	56.1	1,600,776	944,821	853,795	1,354,941
Duluth, Missabe & Iron Range	May	543	4,685,695	1,414	5,468,356	291,480	353,876	4,450	773,336	1,459,062	26.6	4,009,294	1,163,971	1,162,035	2,683,428
	5 mos.	543	8,449,132	6,455	9,815,996	1,226,796	1,674,275	21,114	2,109,480	5,209,401	53.1	4,606,595	1,305,125	1,281,506	1,538,193
Duluth, Winnipeg & Pacific	May	175	179,000	700	183,200	36,871	20,993	2,041	65,362	128,798	70.3	54,402	40,208	22,503	—7,818
	5 mos.	175	913,700	4,300	934,400	152,766	127,478	10,099	341,258	648,474	69.4	285,926	214,363	106,390	4,381
Elgin, Joliet & Eastern	May	392	2,606,649	9	2,926,449	214,385	544,671	17,147	917,841	1,714,447	58.6	1,212,002	13,607	—91,145	623,028
	5 mos.	392	12,059,926	65	13,551,672	944,184	2,585,615	83,307	4,674,281	8,544,815	63.1	5,006,857	1,829,374	1,157,197	2,724,183
Erie	May.	2,251	10,283,648	630,596	11,542,133	1,368,535	1,752,510	196,201	3,682,776	7,342,313	63.6	4,199,820	2,496,877	2,068,417	2,008,580
	5 mos.	2,251	46,427,113	2,612,289	51,962,353	4,725,375	8,713,679	981,956	18,137,468	34,161,052	65.7	17,801,301	10,526,975	8,670,907	8,157,262
Florida East Coast	May	685	1,012,526	365,751	1,490,113	170,806	162,195	32,119	407,463	850,343	57.1	639,770	562,628	512,900	61,560
	5 mos.	685	4,648,126	2,491,258	7,860,435	702,743	888,716	170,180	2,410,448	4,628,026	58.9	3,232,409	2,839,352	2,546,484	1,464,488
Georgia Railroad	May	329	575,051	91,708	701,305	59,592	80,162	21,270	230,346	407,867	58.2	293,438	269,990	259,325	101,639
	5 mos.	229	2,711,627	345,545	3,218,886	257,455	366,394	105,965	1,111,865	1,923,788	59.7	1,295,098	1,192,124	1,156,675	452,409
Georgia & Florida	May	408	130,082	3,733	137,881	32,898	19,246	9,993	46,534	114,971	83.4	22,910	13,982	7,506	5,496
	5 mos.	408	683,772	18,168	726,486	174,598	99,338	49,980	242,896	598,841	82.4	127,645	82,658	39,287	—2,664
Grand Trunk Western	May	1,026	1,998,000	140,000	2,302,000	320,907	401,634	39,489	912,304	1,753,529	76.2	548,471	403,486	315,696	560,444
	5 mos.	1,026	10,040,000	572,000	11,381,000	1,549,435	2,269,732	192,750	4,775,120	9,175,945	80.6	2,205,055	1,483,303	1,100,035	2,800,419
Canadian National Lines in New England	May	172	110,000	3,500	128,700	45,662	23,154	2,604	75,777	157,592	122.4	—28,892	—47,412	—97,285	—5,502
	5 mos.	172	1,009,000	17,100	1,113,600	242,132	147,563	12,776	509,586	975,295	87.8	138,305	45,705	—287,875	—189,787
Great Northern	May	8,077	11,468,250	578,130	13,169,999	1,762,264	2,124,444	222,609	3,249,074	7,662,250	58.2	5,507,749	3,727,779	3,631,228	3,554,235
	5 mos.	8,077	46,009,494	2,347,337	52,246,448	6,887,214	10,579,881	1,012,651	15,628,656	35,617,795	68.2	16,628,653	9,243,171	8,631,423	6,665,018
Green Bay & Western	May	234	176,592	451	182,854	39,752	23,347	9,125	53,446	131,396	71.8	51,458	29,801	21,744	29,302
	5 mos.	234	886,676	1,611	914,593	161,600	108,757	45,800	274,948	618,861	67.6	295,732	197,052	151,681	139,976
Gulf & Ship Island	May	259	139,423	30,809	185,568	31,261	27,034	3,347	68,087	137,262	74.0	48,306	33,857	20,976	21,312
	5 mos.	259	669,106	98,018	834,352	126,533	117,813	15,677	329,787	622,655	74.6	211,697	125,360	59,142	51,966

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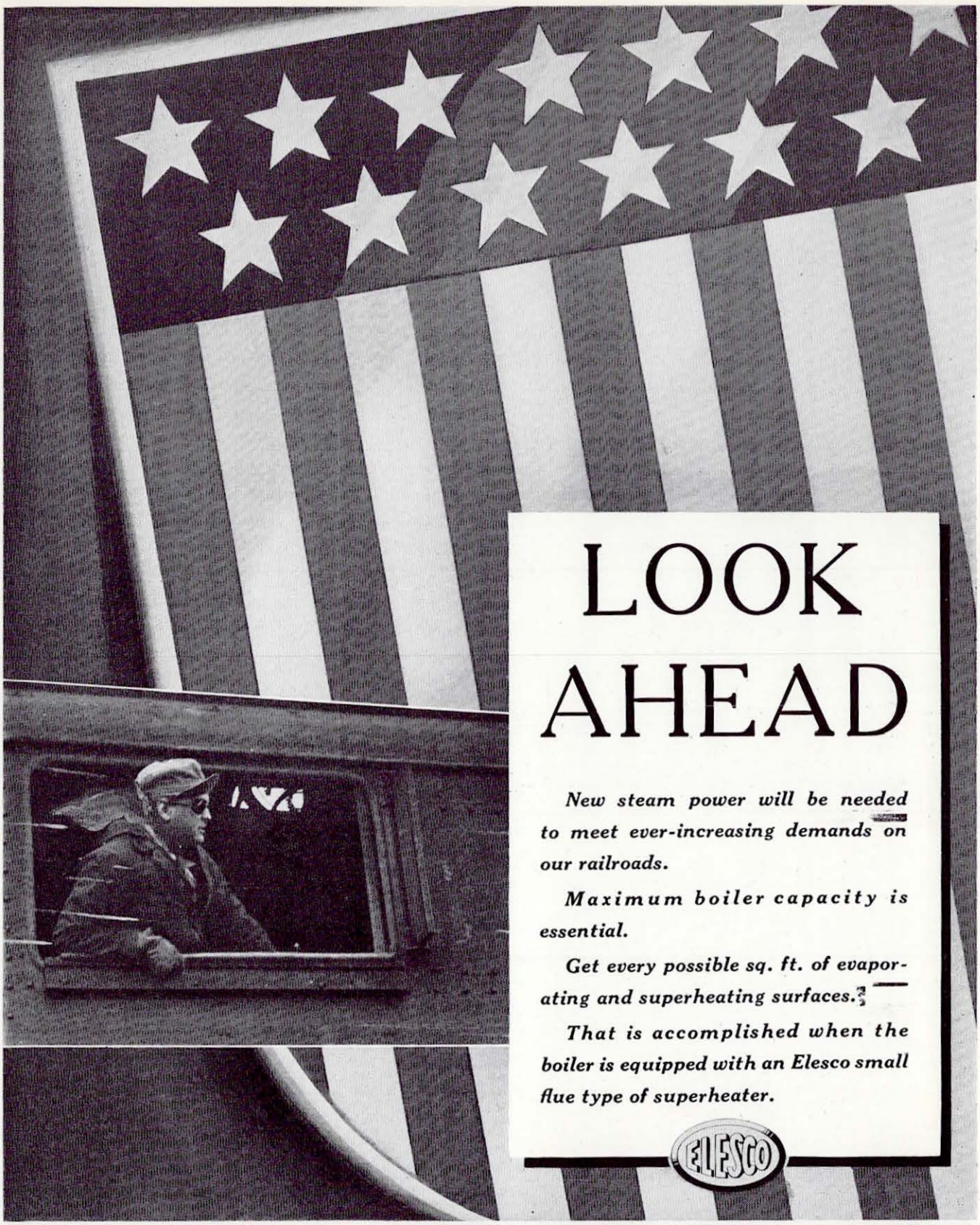

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New steam power will be needed to meet ever-increasing demands on our railroads.

Maximum boiler capacity is essential.

Get every possible sq. ft. of evaporating and superheating surfaces.

That is accomplished when the boiler is equipped with an Elesco small flue type of superheater.

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SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO
• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Gulf, Mobile & Ohio	May	1,969	$2,656,219	$117,174	$2,868,507	$313,873	$402,004	$83,766	$714,757	$1,607,171	56.0	$1,261,336	$682,336	$499,462	$290,741
	5 mos.	1,969	10,958,950	373,262	11,763,143	1,623,815	1,863,795	439,470	3,335,138	7,755,938	65.9	4,007,205	2,452,205	1,733,114	1,401,281
Illinois Central	May	4,950	13,154,950	1,454,765	15,620,432	1,524,913	2,848,769	235,006	4,329,768	9,389,560	60.1	6,230,872	3,132,226	2,677,106	1,996,089
	5 mos.	4,950	55,905,552	6,670,947	66,719,811	6,395,068	13,814,139	1,126,549	21,079,923	44,628,139	66.9	22,091,672	11,262,356	9,895,430	9,934,407
Yazoo & Mississippi Valley	May	1,550	2,174,645	142,973	2,435,251	179,106	367,259	38,565	782,904	1,434,870	58.9	1,000,381	835,575	713,574	325,146
	5 mos.	1,550	10,598,903	665,382	11,743,979	742,951	1,541,616	183,444	3,595,519	6,382,421	54.3	5,361,558	4,548,496	4,061,024	1,049,587
Illinois Central System	May	6,500	15,329,595	1,597,738	18,055,683	1,704,019	3,216,028	273,571	5,112,672	10,824,430	60.58	1,299,773	871,487	769,195	559,271
	5 mos.	6,500	66,504,455	7,336,329	78,463,790	7,138,019	15,355,755	1,309,993	24,675,442	51,010,560	65.0	27,453,230	15,784,081	13,983,019	11,027,558
Illinois Terminal	May	476	570,702	106,723	747,182	66,489	77,896	18,170	210,678	395,624	52.95	351,558	235,834	211,469	142,974
	5 mos.	476	2,517,501	477,601	3,297,082	285,042	424,304	93,425	1,040,502	1,997,309	60.58	1,299,772	871,487	769,195	559,271
Kansas City Southern	May	880	2,793,120	148,281	3,114,345	331,752	398,360	60,813	680,645	1,557,305	50.0	1,557,040	1,017,040	816,807	361,151
	5 mos.	880	9,998,780	707,924	11,493,908	1,320,863	1,631,217	283,502	2,953,679	6,571,585	57.2	4,922,323	3,570,323	2,811,288	1,735,584
Kansas, Oklahoma & Gulf	May	328	264,906	684	267,936	28,386	13,980	9,656	62,027	124,075	46.3	143,861	97,086	77,212	65,458
	5 mos.	328	1,068,630	2,691	1,084,439	101,735	65,217	48,576	278,815	553,022	51.0	531,417	350,243	251,323	360,090
Lake Superior & Ishpeming	May	156	402,986	42	525,851	44,761	34,856	610	75,522	163,547	31.1	362,304	151,810	156,992	267,306
	5 mos.	156	913,681	302	1,151,983	140,032	198,998	3,014	237,318	619,081	53.7	532,902	182,148	213,411	408,992
Lehigh & Hudson River	May	96	334,227	3,489	340,835	32,539	28,681	4,021	91,490	163,639	48.0	177,196	70,142	36,390	37,608
	5 mos.	96	1,429,841	10,687	1,446,400	116,284	148,631	22,623	404,673	728,278	50.4	718,122	367,562	214,198	137,227
Lehigh & New England	May	190	494,587	.....	497,905	41,422	103,199	6,893	144,473	319,937	64.3	177,968	95,669	111,939	143,117
	5 mos.	190	2,270,866	.....	2,285,064	200,084	484,583	37,591	695,705	1,508,296	66.0	776,768	420,867	478,536	499,302
Lehigh Valley	May	1,263	5,436,526	285,541	6,050,793	892,076	982,412	108,906	2,187,987	4,336,215	71.7	1,714,578	1,067,966	733,728	1,017,147
	5 mos.	1,263	24,761,498	1,167,821	27,512,919	2,637,765	4,591,010	534,974	10,907,315	19,470,108	70.8	8,042,811	5,231,431	3,579,650	4,252,292
Louisiana & Arkansas	May	877	1,088,969	77,368	1,213,571	170,537	164,737	31,652	295,331	707,692	58.3	505,879	311,944	241,684	191,066
	5 mos.	877	4,689,415	308,840	5,213,787	748,022	690,884	159,210	1,330,464	3,146,299	60.3	2,067,488	1,321,189	1,033,278	897,466
Louisville & Nashville	May	4,798	11,680,044	1,622,942	14,000,503	1,184,854	2,291,631	191,012	4,126,417	8,170,241	58.4	5,830,262	1,270,566	1,331,259	2,095,561
	5 mos.	4,798	51,384,862	6,591,962	61,196,683	5,833,616	11,139,669	981,805	19,023,511	38,779,978	63.4	22,416,705	7,590,374	8,363,360	9,046,678
Maine Central	May	991	1,166,422	156,497	1,417,619	230,491	263,309	13,274	481,666	1,026,642	72.4	390,977	210,502	220,272	258,987
	5 mos.	991	6,110,781	641,133	7,227,600	937,918	1,330,133	63,586	2,480,436	5,021,884	69.5	2,205,716	1,334,225	1,123,160	1,231,825
Midland Valley	May	351	123,227	12	125,301	20,304	9,743	2,528	36,153	74,802	59.7	50,499	39,436	30,840	11,812
	5 mos.	351	584,546	33	595,920	73,544	47,103	13,006	184,246	351,499	59.0	244,421	184,839	131,846	123,912
Minneapolis & St. Louis	May	1,409	925,957	18,487	978,286	204,934	168,276	56,501	314,688	788,025	80.6	190,261	130,125	113,308	110,148
	5 mos.	1,409	4,927,154	100,720	5,216,942	728,113	771,786	281,771	1,702,399	3,706,552	71.0	1,510,390	1,226,517	1,066,978	369,770
Minneapolis, St. Paul & Sault Ste. Marie	May	4,277	3,070,003	97,134	3,387,503	547,964	589,015	69,016	1,203,483	2,519,501	74.4	868,002	601,526	559,789	470,872
	5 mos.	4,277	13,971,620	408,994	15,330,625	2,043,461	2,821,900	336,833	6,040,538	11,761,155	76.7	3,569,470	2,252,401	1,897,917	986,854
Duluth, South Shore & Atlantic	May	550	313,530	11,349	351,074	73,163	51,978	7,969	119,681	259,324	73.9	91,750	73,321	68,244	58,846
	5 mos.	550	1,375,575	60,245	1,527,374	228,592	261,219	41,380	568,317	1,132,863	74.2	394,511	306,601	275,453	137,799
Spokane International	May	152	107,984	977	116,157	12,937	8,094	2,556	29,993	58,100	50.0	58,057	47,708	43,686	10,287
	5 mos.	152	408,373	5,662	451,404	72,351	40,422	12,804	138,548	286,821	63.5	164,583	126,623	105,290	35,778
Mississippi Central	May	158	117,202	9,935	129,075	27,636	14,098	8,314	29,360	83,669	64.8	45,406	38,051	30,202	—8,802
	5 mos.	158	538,746	20,709	565,203	116,152	66,837	40,560	137,708	383,610	67.9	181,593	149,290	118,624	76,789
Missouri & Arkansas	May	365	112,446	2,278	122,140	22,617	14,007	7,714	43,776	94,667	77.5	27,473	22,607	11,919	6,900
	5 mos.	365	575,560	8,896	626,413	114,348	69,501	38,290	241,120	489,873	78.2	136,540	111,460	51,803	46,196
Missouri-Illinois	May	172	282,712	248	284,122	38,952	23,075	3,535	64,168	133,089	46.8	151,033	80,677	67,006	64,354
	5 mos.	172	1,184,800	1,120	1,192,060	139,853	148,349	17,344	299,109	626,647	62.6	565,413	321,332	257,679	263,408
Missouri-Kansas-Texas	May	3,293	3,198,167	524,484	4,026,428	664,497	702,948	115,768	1,337,957	2,992,803	74.3	1,033,625	823,483	483,718	135,133
	5 mos.	3,293	15,032,639	2,423,593	18,938,225	2,498,304	3,040,042	605,519	6,388,494	13,348,510	70.5	5,589,715	4,411,204	2,943,418	1,057,966
Missouri Pacific	May	7,130	11,570,422	1,295,855	13,774,298	1,479,097	1,872,859	268,927	4,022,095	7,996,417	58.1	5,777,881	4,959,878	4,188,246	1,618,499
	5 mos.	7,135	48,792,537	5,425,579	58,586,574	6,350,892	9,064,819	1,359,024	18,841,095	37,384,891	63.8	21,201,683	18,015,585	15,077,337	7,360,373
Gulf Coast Lines	May	1,769	2,246,677	165,671	2,503,339	283,594	257,159	49,278	682,434	1,335,140	53.3	1,168,199	1,073,886	830,653	227,943
	5 mos.	1,771	11,436,959	524,597	12,416,242	1,392,970	1,224,940	241,117	3,293,827	6,476,464	62.2	5,939,778	5,473,965	4,278,423	1,710,906
International Great Northern	May	1,155	1,410,401	187,518	1,741,579	217,467	238,533	33,080	589,119	1,145,491	65.8	596,088	520,992	399,028	110,028
	5 mos.	1,155	5,920,425	721,227	7,318,516	1,040,818	1,234,781	158,564	2,766,155	5,527,972	75.5	1,790,544	1,430,047	977,523	319,817
Monongahela	May	172	612,804	746	615,473	63,109	39,831	501	127,721	234,467	38.1	381,006	264,463	165,954	234,050
	5 mos.	172	2,923,325	3,085	2,936,859	298,792	220,833	2,740	661,246	1,199,708	40.9	1,737,151	1,156,445	675,358	549,285

Table continued on next left-hand page

ON OUTSTANDING POWER

THE most convincing evidence of the economical service built into HUNT-SPILLER *Air Furnace* GUN IRON is its performance on modern power.

This is the power which is primarily responsible for the new records established by the railroads—power that is being operated to the utmost limits.

But, war-time schedules—long engine runs, intensive operation and high speeds have merely emphasized the wear-resisting qualities built into HUNT-SPILLER *Air Furnace* GUN IRON. Complete standardization on the parts listed below insures maximum economies.

HSGI
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Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION
V. W. Ellet, *President* — E. J. Fuller, *Vice-Pres. & Gen. Mgr.*

383 Dorchester Ave. *Office & Works* South Boston, Mass.

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HUNT-SPILLER *Air Furnace* GUN IRON

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Montour	May	51	$244,413	$.....	$246,140	$14,665	$53,571	$827	$55,529	$131,627	53.5	$114,513	$45,393	$83,383	$90,498
	5 mos.	51	1,012,376	.....	1,019,965	63,307	258,195	4,101	278,187	639,801	62.7	380,164	120,235	301,522	258,948
Nashville, Chattanooga & St. Louis	May	1,111	1,826,352	244,597	2,244,299	216,460	382,717	71,712	752,728	1,490,531	66.4	753,768	444,019	431,101	278,876
	5 mos.	1,111	7,868,782	1,100,744	9,801,469	1,126,474	1,875,654	368,380	3,649,412	7,366,985	72.5	3,632,983	342,352	2,480,672	2,731,792
Nevada Northern	May	165	59,404	883	63,243	11,549	2,565	1,161	9,648	30,773	48.7	32,470	11,485	14,222	23,027
	5 mos.	165	278,458	3,372	296,790	48,617	16,686	6,060	49,533	151,709	51.1	145,081	55,564	64,030	82,246
New York Central	May	10,915	35,053,774	8,613,367	48,005,942	5,120,974	9,075,743	571,504	16,136,824	32,544,222	67.8	15,461,720	8,391,662	6,609,132	5,133,024
	5 mos.	10,916	161,055,026	36,015,254	216,536,891	22,254,339	44,570,087	2,939,828	79,344,323	157,311,014	72.6	59,225,877	31,591,175	24,592,406	22,541,306
Pittsburgh & Lake Erie	May	232	2,866,136	68,755	3,006,065	248,098	714,230	40,341	796,612	1,892,607	63.0	1,113,458	151,007	619,719	879,478
	5 mos.	232	12,537,948	310,857	13,190,838	1,134,057	3,829,026	201,188	3,908,450	9,557,855	72.5	3,632,983	342,352	2,480,672	2,731,792
New York, Chicago & St. Louis	May	1,688	7,162,235	204,658	7,486,578	568,880	867,529	131,184	2,128,371	3,842,710	51.3	3,643,868	1,653,701	1,057,520	1,259,903
	5 mos.	1,688	31,263,506	813,232	32,670,039	2,586,739	4,061,899	655,694	10,192,509	18,211,205	55.7	14,458,834	7,750,982	5,242,932	5,623,010
New York, New Haven & Hartford	May	1,844	7,885,398	4,072,869	12,848,537	1,317,674	1,667,904	129,431	3,856,952	7,514,017	58.5	5,334,520	3,474,520	2,498,474	1,495,802
	5 mos.	1,841	34,984,409	17,363,224	56,695,129	5,589,316	8,072,902	623,990	18,960,622	35,841,636	63.2	20,853,493	14,467,493	9,952,497	5,921,162
New York Connecting	May	21	272,964	.....	287,250	125,406	85	.....	40,804	167,833	58.4	119,417	74,917	132,621	283,554
	5 mos.	21	1,240,801	.....	1,206,835	230,774	45,920	.....	202,013	486,654	37.2	820,181	593,901	845,498	1,297,970
New York, Ontario & Western	May	547	570,069	26,761	646,864	73,983	125,408	21,508	293,610	536,132	82.9	110,732	78,785	20,316	—7,456
	5 mos.	547	2,609,841	54,554	2,875,659	304,491	553,349	98,385	1,437,547	2,499,473	86.9	376,186	224,177	14,938	—266,871
New York, Susquehanna & Western	May	262	287,620	33,281	332,353	31,246	28,364	2,910	119,812	192,837	58.0	139,516	109,246	78,699	84,694
	5 mos.	262	1,361,567	163,895	1,604,806	129,754	164,800	11,978	636,493	997,157	62.1	607,649	455,539	291,930	290,506
Norfolk & Western	May	2,164	11,367,951	558,269	12,234,416	1,099,503	2,474,687	151,206	2,391,360	6,363,349	52.0	5,871,067	1,236,223	1,731,602	3,265,216
	5 mos.	2,175	50,588,647	2,123,148	54,155,681	5,423,911	11,226,264	781,983	11,736,999	30,476,721	56.3	23,678,960	6,311,700	8,604,078	11,682,391
Norfolk Southern	May	733	632,064	15,612	666,067	99,292	71,545	28,420	197,777	422,765	63.5	243,302	194,733	155,308	52,395
	5 mos.	733	2,604,177	54,759	2,746,868	485,333	332,242	138,950	897,145	1,979,972	72.1	766,896	550,774	429,744	179,632
Northern Pacific	May	6,889	7,547,598	589,022	8,795,667	1,310,137	1,794,201	173,508	2,638,019	6,269,003	71.3	2,526,664	1,390,418	1,779,444	1,531,763
	5 mos.	6,889	34,629,713	2,373,012	40,041,071	5,368,971	8,668,668	841,626	13,056,750	29,679,225	74.1	10,361,846	5,608,625	7,622,914	5,425,430
Northwestern Pacific	May	342	331,481	14,495	361,269	87,741	52,308	1,958	147,553	297,224	82.3	64,045	46,038	27,711	—6,283
	5 mos.	345	1,524,971	44,640	1,654,737	468,116	257,666	12,284	680,164	1,455,136	87.9	199,601	91,246	11,772	—200,960
Oklahoma City-Ada-Atoka	May	132	94,069	.....	95,897	13,369	3,772	1,208	20,159	41,811	43.6	54,086	43,129	32,720	2,397
	5 mos.	132	423,814	1	431,865	59,528	17,837	5,043	106,612	202,243	46.8	229,622	163,132	108,046	1,803
Pennsylvania	May	10,215	52,877,892	12,705,401	70,364,936	7,360,970	12,622,841	852,681	23,151,487	45,792,460	65.1	24,572,476	13,388,108	12,057,359	7,995,287
	5 mos.	10,215	231,792,198	54,947,912	308,208,850	32,520,100	62,687,776	4,024,974	112,203,445	220,336,851	71.5	87,871,999	40,130,832	34,277,488	32,589,694
Long Island	May	378	965,579	1,810,413	2,907,272	407,226	550,070	11,706	1,122,871	2,144,191	72.8	763,081	371,810	184,448	147,685
	5 mos.	378	4,351,233	7,513,733	12,495,515	1,667,642	2,144,776	49,389	5,666,753	9,798,108	78.4	2,697,407	1,276,114	341,584	244,522
Pennsylvania-Reading Seashore Lines	May	406	454,970	240,780	721,296	99,772	111,226	9,843	348,216	586,472	81.3	134,824	35,725	—65,178	—124,911
	5 mos.	406	2,091,240	733,995	2,954,828	482,758	532,407	39,453	1,746,545	2,891,512	97.9	63,316	—395,260	—834,141	—931,458
Pere Marquette	May	2,055	3,200,647	140,502	3,496,087	460,877	716,288	72,517	1,225,810	2,592,989	74.2	903,098	546,939	468,904	562,867
	5 mos.	2,055	15,121,811	586,731	16,404,080	2,091,347	3,541,246	350,094	6,222,183	12,771,963	77.9	3,632,117	2,138,822	1,969,343	2,652,430
Pittsburg & Shawmut	May	97	111,007	.....	111,716	15,253	17,840	1,859	27,283	67,157	60.1	44,559	41,130	34,340	32,032
	5 mos.	97	476,940	.....	479,808	49,581	95,155	10,039	123,556	300,825	62.7	178,983	163,440	149,538	49,833
Pittsburgh & West Virginia	May	136	521,325	226	537,092	106,457	94,748	19,528	128,060	372,481	69.4	164,611	126,597	119,312	129,613
	5 mos.	136	2,270,081	296	2,359,317	332,969	483,244	96,676	544,394	1,580,376	67.0	778,941	566,625	625,283	601,593
Pittsburg, Shawmut & Northern	May	190	121,339	.....	122,688	20,470	30,663	1,419	40,662	98,981	80.7	23,707	16,885	9,003	33,730
	5 mos.	190	633,594	.....	641,781	95,995	145,946	6,084	226,881	502,931	78.3	138,850	104,628	62,796	119,211
Reading	May	1,424	7,450,839	553,316	8,402,588	697,762	1,640,304	74,786	2,788,218	5,368,833	63.9	3,033,755	1,881,969	1,618,902	1,552,978
	5 mos.	1,429	35,723,602	2,337,939	39,834,427	2,923,766	8,082,480	374,166	13,590,226	25,832,318	64.8	14,002,109	8,543,203	7,388,921	6,510,324
Richmond, Fredericksburg & Potomac	May	118	1,354,872	767,433	2,312,488	126,927	185,607	11,351	561,187	965,900	41.8	1,346,588	176,375	—4,555	215,952
	5 mos.	118	5,532,230	3,506,697	9,902,893	570,481	959,160	53,365	2,684,718	4,645,988	46.9	5,256,905	2,250,517	1,603,167	1,116,909
Rutland	May	407	253,631	36,314	351,707	38,315	65,102	11,143	164,054	290,596	82.6	61,111	39,729	42,202	39,291
	5 mos.	407	1,212,448	175,042	1,682,840	177,550	322,133	52,812	792,366	1,402,087	83.3	280,753	180,541	195,552	20,380
St. Louis-San Francisco	May	4,765	5,124,821	880,889	6,476,091	685,818	1,169,185	135,668	2,187,038	4,420,270	68.3	2,055,821	1,672,437	1,673,512	853,562
	5 mos.	4,766	23,371,766	3,629,603	29,180,577	3,195,513	5,515,887	661,298	10,383,678	20,932,180	71.7	8,248,397	6,135,370	6,443,429	3,978,422
St. Louis, San Francisco & Texas	May	159	216,246	6,803	229,364	29,491	24,455	8,838	76,137	144,803	63.1	84,561	73,885	47,323	—5,047
	5 mos.	159	942,426	16,074	985,557	137,057	107,981	44,339	356,551	675,032	68.5	310,525	260,649	131,308	—8,946

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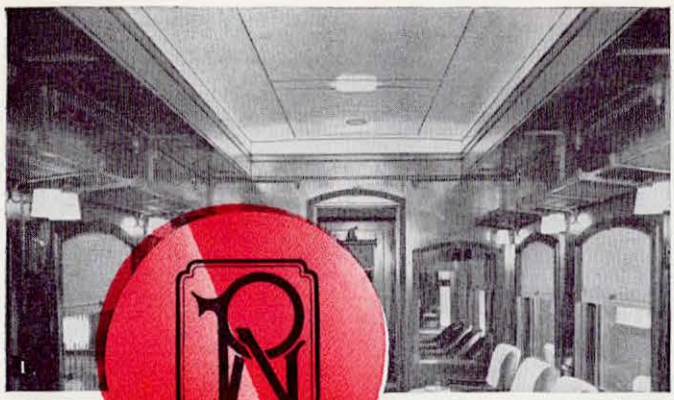

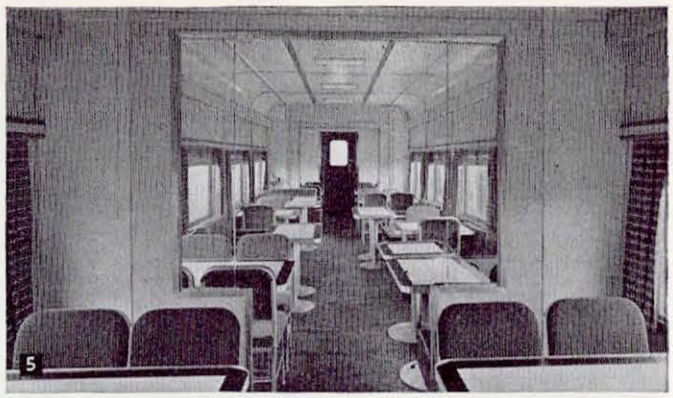

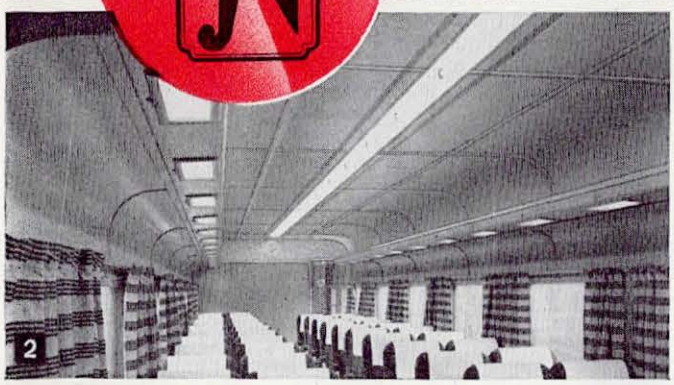

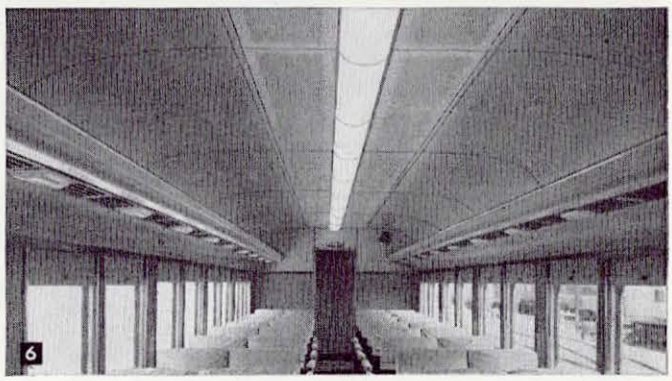

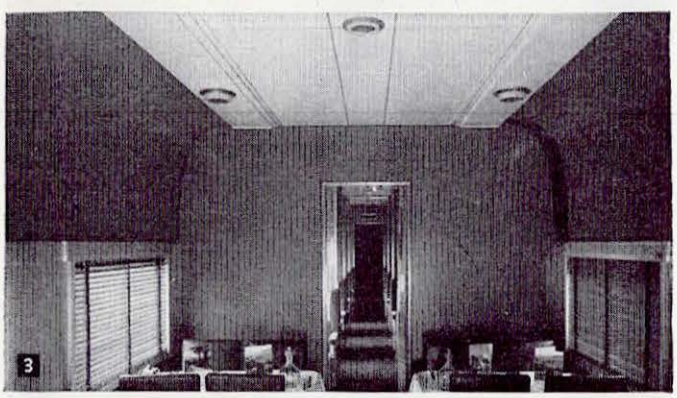

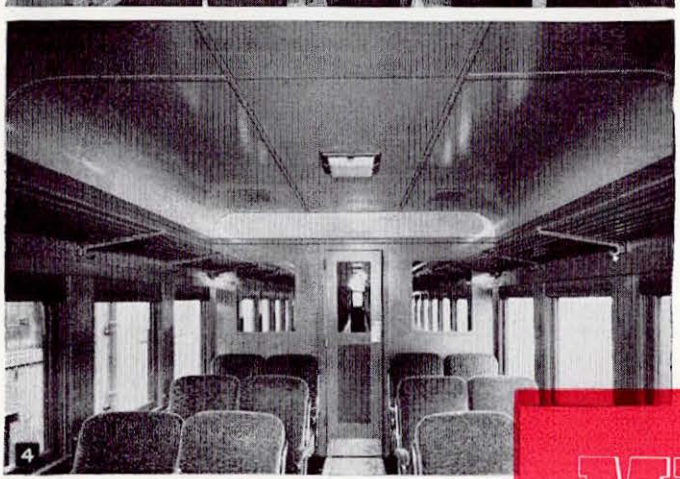

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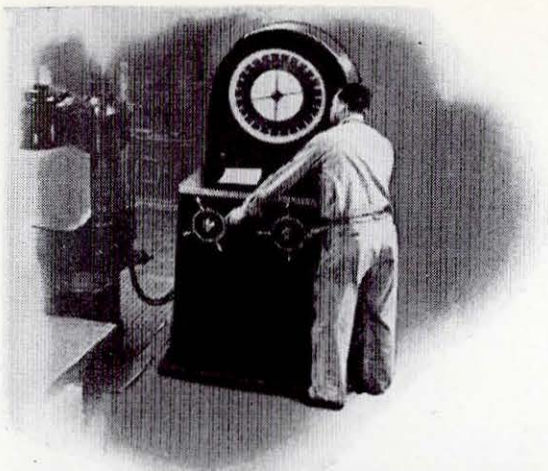
MULTI-VENT
AIR DISTRIBUTION

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
St. Louis Southwestern Lines	May	1,617	$3,719,724	$197,313	$4,014,266	$462,852	$406,899	$96,524	$998,921	$2,063,769	51.4	$1,950,497	$1,149,525	$869,558	$552,372
	5 mos.	1,617	15,343,788	731,218	16,534,307	1,718,942	1,801,768	478,783	4,532,508	9,011,601	54.5	7,522,706	4,623,065	3,477,394	2,737,432
Seaboard Air Line	May	4,244	6,667,585	2,004,572	9,142,452	830,386	1,269,515	195,344	2,651,462	5,251,169	57.4	3,891,283	3,466,283	3,074,929	707,056
	5 mos.	4,293	27,877,294	8,940,973	39,173,104	4,371,191	6,007,571	1,035,287	12,511,306	25,531,284	65.2	13,643,820	11,618,820	10,038,229	4,164,208
Southern Railway	May	6,519	13,281,683	2,907,847	17,111,973	1,612,397	2,668,258	183,203	4,481,017	9,461,706	55.3	7,650,267	4,183,483	3,908,032	2,642,065
	5 mos.	6,519	58,472,870	9,718,993	72,438,174	7,962,234	12,190,897	958,774	21,542,288	44,945,931	62.0	27,492,243	15,419,227	14,256,351	12,185,122
Alabama Great Southern	May	315	1,345,251	271,769	1,689,651	107,111	219,137	21,228	406,145	791,788	46.9	897,863	277,545	220,222	167,368
	5 mos.	315	5,591,042	891,952	6,830,528	546,869	1,040,574	100,498	1,849,164	3,723,135	54.5	3,107,393	1,118,087	905,063	819,310
Cincinnati, New Orleans & Texas Pacific	May	337	2,111,501	307,945	2,523,886	244,232	470,081	32,088	586,000	1,398,580	55.4	1,125,306	404,002	371,553	529,171
	5 mos.	337	9,525,211	1,234,032	11,270,123	1,165,341	2,280,616	157,745	2,735,146	6,683,309	59.3	4,586,814	2,004,333	1,989,643	2,482,483
Georgia Southern & Florida	May	398	240,140	119,071	386,178	54,375	50,038	2,657	116,413	233,928	60.6	152,250	94,927	76,455	67,240
	5 mos.	398	1,172,149	469,835	1,780,454	272,874	242,935	12,805	589,150	1,174,282	66.0	606,172	373,595	257,949	296,061
New Orleans & Northeastern	May	204	820,870	179,737	1,040,661	69,660	78,565	11,086	241,145	425,165	40.9	615,496	214,762	123,587	98,006
	5 mos.	204	3,245,160	576,873	4,004,600	313,947	305,429	51,734	997,185	1,786,250	44.6	2,218,350	1,063,135	720,444	480,836
Southern Pacific	May	8,565	21,277,801	4,114,523	27,447,372	2,283,130	4,789,075	413,321	8,954,236	17,769,699	64.7	9,677,673	6,217,748	4,992,850	3,873,938
	5 mos.	8,569	101,904,980	16,916,116	128,273,823	11,287,333	21,316,400	2,026,078	42,520,513	83,484,182	65.1	44,789,641	29,027,960	23,260,643	16,031,439
Southern Pacific Steamship Lines	May	...	.....	10	14	312	313	4	Cr. 40,154	—38,070	In excess	38,084	37,928	37,928	192,230
	5 mos.	...	6,741	169	8,805	78,823	187	141	22,362	116,153	of 99.9	—107,348	—107,655	—107,655	396,153
Texas & New Orleans	May	4,402	6,154,112	914,053	7,486,466	869,108	901,465	140,151	1,978,936	4,148,665	55.4	3,337,801	2,068,329	1,702,264	959,128
	5 mos.	4,408	28,649,384	3,450,764	33,971,467	4,297,951	4,405,979	697,711	9,285,292	19,957,659	58.7	14,013,808	8,786,622	6,999,477	4,159,423
Spokane, Portland & Seattle	May	930	1,378,233	47,052	1,507,206	161,305	133,575	11,812	441,835	787,296	52.2	719,910	571,569	439,807	143,560
	5 mos.	937	6,292,133	211,200	6,849,046	829,036	593,600	57,715	2,127,211	3,801,115	55.5	3,047,931	2,515,297	1,940,281	743,914
Tennessee Central	May	286	341,891	9,511	368,441	75,539	51,840	6,521	121,300	267,867	72.7	100,574	66,666	49,162	41,923
	5 mos.	286	1,460,984	39,560	1,580,272	340,131	233,105	35,353	531,820	1,203,446	76.2	376,826	259,910	185,869	175,420
Texas & Pacific	May	1,889	2,671,440	762,696	3,744,464	421,272	652,138	83,073	1,056,885	2,373,023	63.4	1,371,441	897,795	826,798	541,280
	5 mos.	1,889	12,357,752	2,982,923	16,782,136	2,000,468	2,927,949	414,489	5,000,120	11,141,405	66.4	5,640,731	3,840,470	3,322,612	2,552,363
Texas Mexican	May	162	149,042	222	167,851	19,685	15,615	3,972	39,148	86,490	51.5	81,361	74,305	71,520	30,286
	5 mos.	162	646,427	1,773	744,928	102,857	68,596	19,151	201,003	431,282	57.9	313,646	277,433	242,102	119,822
Toledo, Peoria & Western	May	239	257,225	3	261,004	18,972	19,008	20,676	57,228	126,840	48.6	134,164	120,871	100,101	40,629
	5 mos.	239	866,998	13	882,079	112,145	86,938	89,072	310,074	670,779	76.0	211,300	144,323	80,575	173,136
Union Pacific System	May	9,852	19,985,544	3,082,941	24,788,903	4,380,244	4,622,463	442,016	7,046,311	17,561,368	70.8	7,227,535	3,259,236	2,513,631	1,551,997
	5 mos.	9,867	90,148,428	11,920,162	109,825,425	15,384,626	22,084,321	2,117,557	34,403,305	78,884,196	71.8	30,941,229	14,747,006	11,159,907	6,389,209
Utah	May	111	103,034	.....	103,124	13,618	32,240	429	26,550	77,228	74.9	25,896	11,974	15,556	6,505
	5 mos.	111	507,494	.....	507,815	77,307	160,544	2,314	137,191	398,842	78.5	108,973	41,123	38,511	19,275
Virginian	May	653	2,128,835	5,791	2,245,018	175,947	463,353	25,410	360,306	1,071,133	47.7	1,173,885	598,885	672,423	878,497
	5 mos.	653	10,847,801	20,065	11,281,221	922,462	2,345,465	129,235	1,992,605	5,622,188	49.8	5,659,033	3,076,533	3,198,163	2,994,039
Wabash	May	2,394	5,560,507	406,434	6,321,657	718,475	773,505	164,490	2,059,155	3,923,045	62.1	2,398,612	1,225,885	793,867	728,929
	5 mos.	2,396	24,416,723	1,740,826	27,815,379	3,008,543	3,663,178	804,344	9,683,817	18,061,726	64.9	9,753,653	5,382,861	3,589,057	3,504,832
Ann Arbor	May	294	422,798	2,466	435,075	45,860	82,951	14,633	168,959	325,883	74.9	109,192	52,268	41,726	47,094
	5 mos.	294	2,052,609	12,236	2,105,779	193,168	406,523	75,406	888,565	1,626,600	77.2	479,179	257,049	182,109	228,500
Western Maryland	May	859	2,486,686	17,271	2,560,928	239,158	581,467	45,974	699,279	1,631,249	63.7	929,679	524,679	539,937	520,234
	5 mos.	859	11,093,028	54,446	11,445,728	1,134,958	2,532,250	229,673	3,084,948	7,316,981	63.9	4,128,747	2,453,747	2,559,276	2,349,656
Western Pacific	May	1,195	2,619,274	119,572	2,798,049	257,532	358,615	79,780	913,876	1,685,813	60.2	1,112,236	994,577	833,335	217,878
	5 mos.	1,195	11,849,655	604,005	12,752,414	1,380,642	1,784,791	379,879	4,517,953	8,431,885	66.1	4,320,529	3,705,549	3,018,934	863,077
Wheeling & Lake Erie	May	507	1,959,558	1	2,087,477	306,691	327,520	40,160	586,290	1,298,860	62.2	788,617	116,049	243,420	313,009
	5 mos.	507	8,645,673	7	9,072,934	1,122,891	1,667,772	204,354	2,707,807	5,892,681	64.9	3,180,253	337,308	1,077,562	1,649,009



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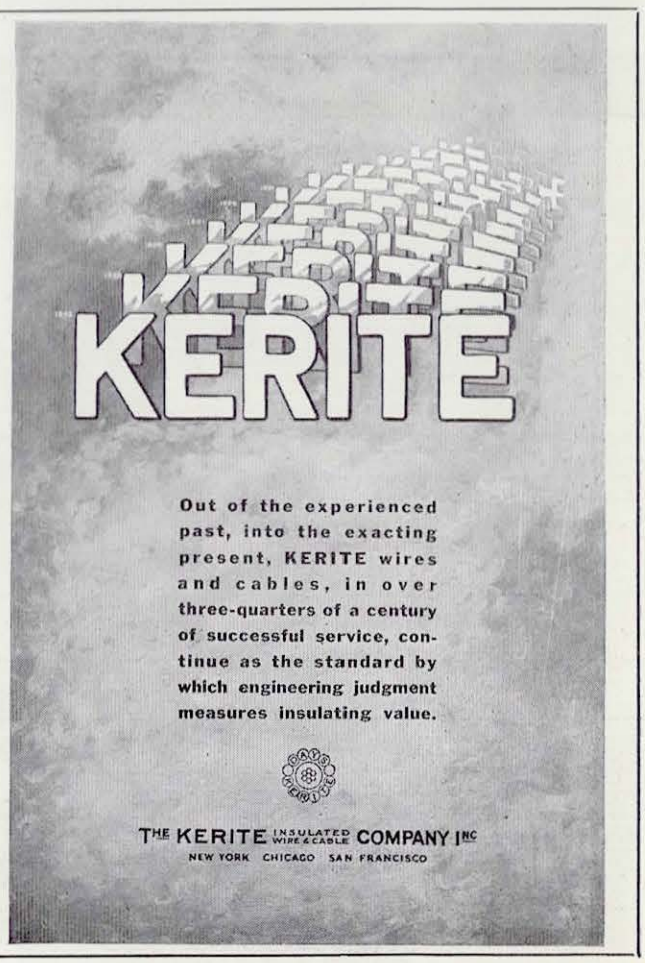
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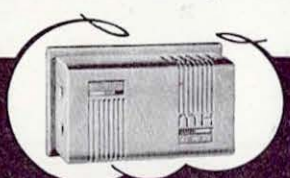

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2. Just enough heating or cooling to offset the heat loss or heat gain in the car.
3. No temperature or humidity overshooting or undershooting from the control point.
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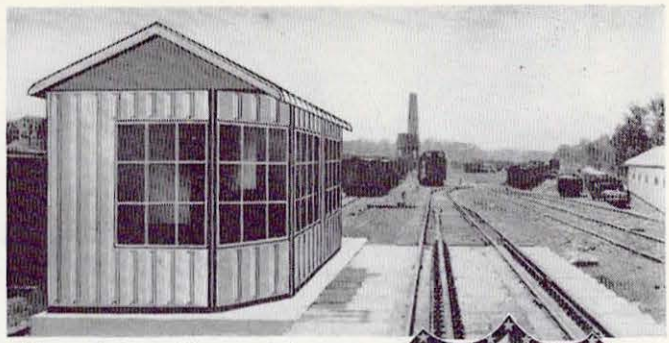
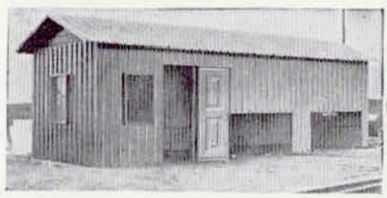


Above—Butler freight car scale house.
Below—Butler motor track car and tool house.



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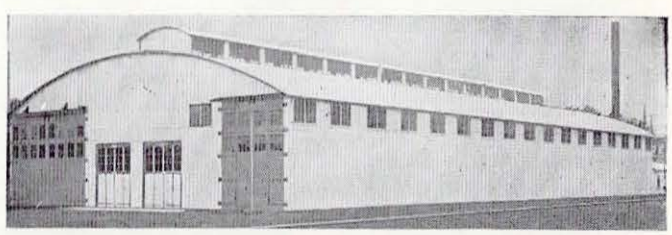
Below—Butler 40′ x 160′ x 22′ railway car repair shop which survived a tornado.

At right—Lined interior of steam-heated 90′x200′x 22′ Butler steel building housing fruit handling docks. (below) Loading and unloading cars within these modern docks protects perishable foods against winter and summer extremes.



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Index to Advertisers

July 11, 1942

A

Air Reduction Sales Co. 23
Aluminum Company of America 8
American Arch Company, Inc. 31
American Locomotive Company 19, 20, 21, 22
American Steel Foundries 11
Association of Manufacturers of Chilled Car Wheels 2

B

Baldwin Locomotive Works, The 15
Bethlehem Steel Company 3
Butler Manufacturing Company 37

C

Classified Advertisements 36

D

Dearborn Chemical Company 5
Dulien Steel Products, Inc. 36

E

Edgewater Steel Company 6, 7
Electric Storage Battery Co., The 14
Electro-Motive Division, General Motors Corporation ..... Back Cover

F

Franklin Railway Supply Co., Inc. 30

G

General American Transportation Corporation 9
General Electric Co. 19, 20, 21, 22
Get Together Department 36
Globe Steel Tubes Co. 35

H

Harbison-Walker Refractories Co. 31
Hennessy Lubricator Co. 13
Holland Company 4
Hunt-Spiller Mfg. Corporation 33

I

Industrial Brownhoist Corp. 10
Iron & Steel Products, Inc. 36

J

Johns-Manville Corp. 12

K

Kerite Insulated Wire & Cable Co., Inc., The 36

L

Lamson & Sessions Company, The 16
Lima Locomotive Works, Inc. 29

M

Minneapolis-Honeywell Regulator Company 37

O

Ohio Locomotive Crane Co., The 36
Okonite Company, The 28
Oxweld Railroad Service Company, The 17

P

Pyle-National Company, The 34

R

Railway Educational Bureau, The 36

S

Schaefer Equipment Company 39
Silent Hoist Winch & Crane Co. 36
Sonken-Galamba Corp. 36
Superheater Co., The 32

T

Timken Roller Bearing Company, The 18

U

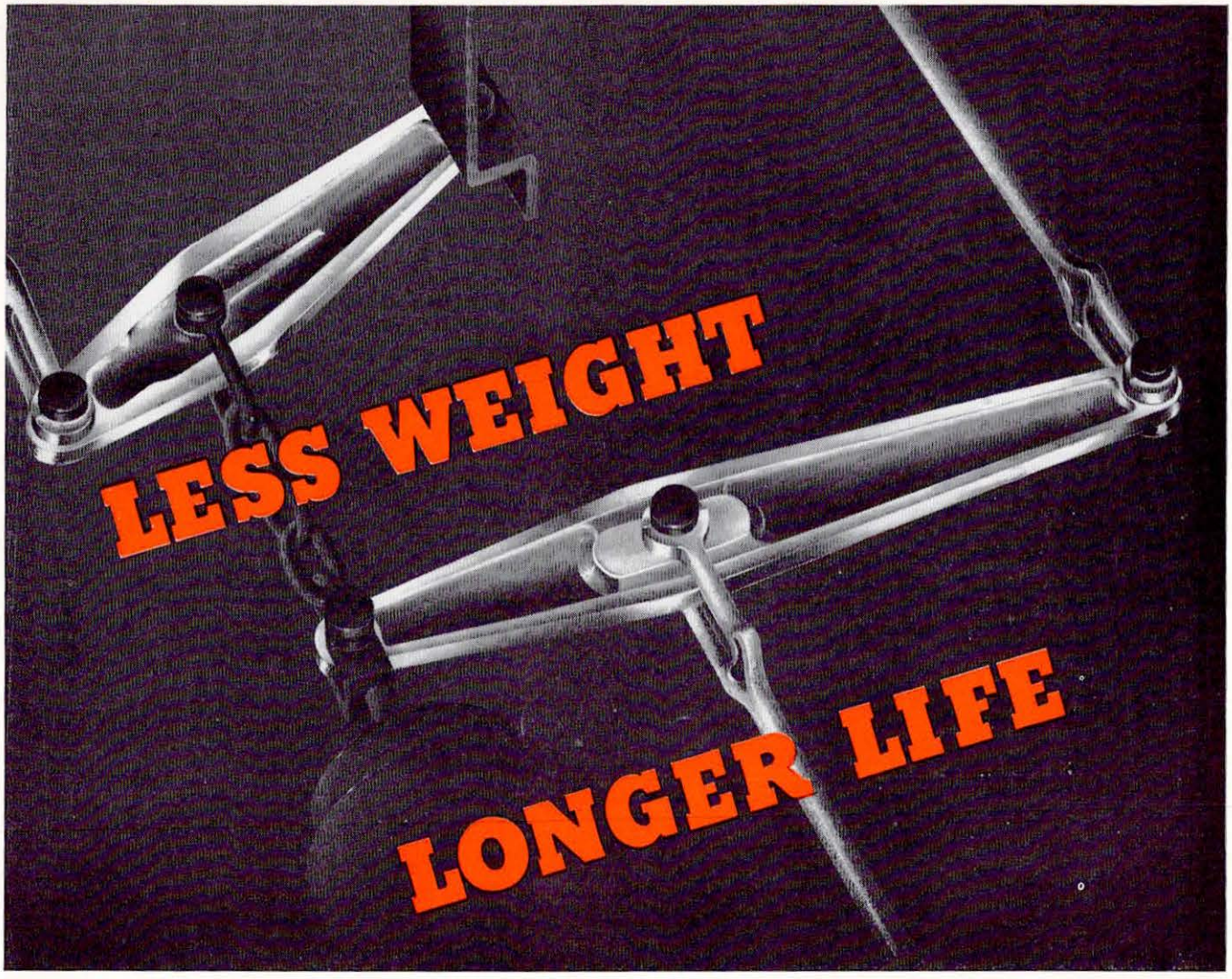
Union Carbide and Carbon Corporation 17
Union Switch & Signal Company 26

V

Vapor Car Heating Co., Inc. 36

W

Westinghouse Air Brake Co. 24
Wine Railway Appliance Co., The ..... Front Cover



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overworked repair tracks

Schaefer EQUIPMENT COMPANY

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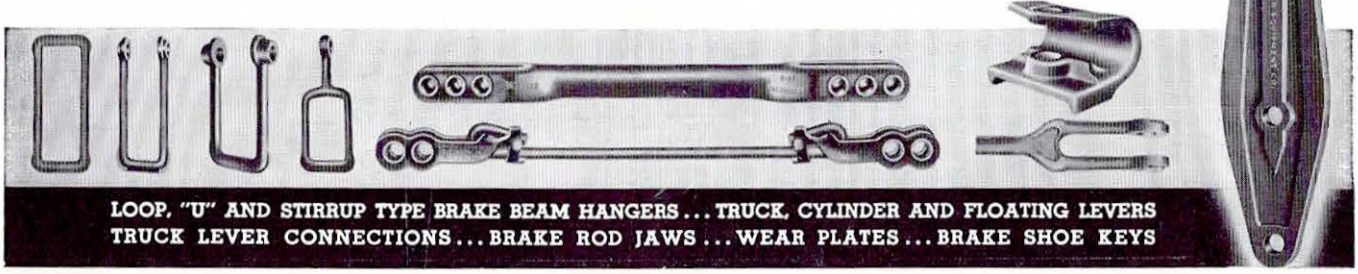

LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS ... TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS ... BRAKE ROD JAWS ... WEAR PLATES ... BRAKE SHOE KEYS

JUST as the big guns of our fighting forces are vital for Victory on the battlefronts, so are the "big guns" of American railroads equally important on the *transportation front.* Never before in our history have the railroads been faced with such great *transportation responsibility*—that of moving our fast growing armed forces, materials and supplies with the maximum of safety and dispatch. ★ ★ General Motors 5400-Hp. Diesel Freight Locomotives have been rightly called "Big Guns" because of the super-performances they are delivering, such as reduction in train miles as much as 50% — increased hauling capacity — faster schedules with fewer service delays — high availability . . . and for each Diesel operated, release as many as five heavy steam locomotives for other important services — increased carrying capacity of existing track facilities without expensive replacements with heavier rail or rebuilding of bridge structures. And in the *conservation of vital materials,* 1 ton in a GM Diesel locomotive will do the work of more than 2 tons of materials in a steam locomotive.

GENERAL MOTORS LOCOMOTIVES

TRANSPORTATION IS VITAL FOR VICTORY

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U. S. A.